INDIA RUBBER WORLD AND ELECTRICAL TRADES REVIEW

Published on the 10th of each Month by

THE INDIA RUBBER PUBLISHING CO.

120-122 LIBERTY ST., NEW YORK, U. S. A.

LONDON OFFICE, 225 STRAND, W. C.

JNO. R. DUNLAP. H. C. PEARSON.

Vol. 16. AUGUST 10, 1897. No. 5.

SUBSCRIPTIONS: $3.00 per year, $1.75 for six months, postpaid, for the United States and Canada. Foreign countries, same price. Special Rates for Clubs of five, ten or more subscribers.

ADVERTISING: Rates will be made known on application.

REMITTANCES: Should always be made by bank draft, Post Office Orders or Express Money orders on New York, payable to THE INDIA RUBBER PUBLISHING COMPANY. Remittances for foreign subscriptions should be sent by International Post order, payable as above.

DISCONTINUANCES.—Yearly orders for subscriptions and advertising are regarded as permanent, and after the first twelve months they will be discontinued only at the request of the subscriber or advertiser. Bills are rendered promptly at the beginning of each period, and thereby our patrons have due notice of continuance.

Entered at New York Post Office as mail matter of the second-class.

TABLE OF CONTENTS.

PROSPERITY AND THE TARIFF.

THE rubber trade in America is never concerned greatly about the tariff. Even if it were, it would be hardly worth while to express opinions of the law just passed, in advance of a full test. But the country may be congratulated upon the disposal of the tariff question so early in a new administration, insuring a respite from its agitation for at least four years. What may be regarded as settled for an even longer period is that the protective policy is to be maintained, and that any revision meanwhile will be merely in details.

It would be a welcome result if, after the several tariff revisions within recent years, the people of the United States should begin to appreciate the relative unimportance of this subject. The government must be provided with revenue and the people with a sound currency, and under our system the tariff does bear a certain relation to these matters. But a condition of general prosperity rests upon the steady employment of wage-earners and profitable markets for the products of labor, and it is too much to expect that any tariff law can be devised that alone will guarantee all this.

The rubber business affords an illustration of the conditions under which, in the United States, industry has lagged and trade become dull, as compared with some former periods. For the most part the tariff has had nothing to do with it. So long as the manufacture of goods was limited and the market practically unlimited—or while the demand exceeded the supply—the output was steady and profits liberal. There was a continual growth in the capital invested, in factory capacity, and in production, until, in the nature of things, a limit was reached. Then, instead of buyers pressing for goods, there was a pressure from the factories to force sales. But manufacturers made the mistake of trying to thwart the laws of trade, instead of adapting themselves to changed circumstances. They produced as many goods as ever, and even more, and if the people were slow about buying, prices were cut. It was believed that the old conditions would return, and that the only thing essential in the meantime was to make sales, without regard to profits. The fact was ignored that some lines had been overdone and that too many people were trying to make a living out of a given volume of business. The outcome will be the survival of the fittest, and no tariff in the world could save the manufacturer against whom this natural law operates.

The subject of foreign markets as an outlet for surplus products has not appealed in a practical way to our manufacturers as generally as it should. It is not too late yet, however. Indeed, at no time have conditions been more favorable for an American export trade, and never have our shipments of factory products been larger than within a year past. The enforced economies of manufacture, due to overproduction and consequent low selling-prices, have enabled our mills to turn out goods at a steadily-decreasing cost, and gradually fitted us for competition with the whole world. The application to the building-up of an export trade of the same intelligence and energy as are

displayed in the home trade might yield results equally profitable.

Too many of our manufacturers have fancied that the sale of their goods abroad, and particularly in Europe, would be hindered by a prejudice against anything American. The country has not been discovered whose people will permit prejudices of this sort to keep them from buying where it will be to their advantage. No doubt the British government intended that the "merchandise marks act" should decrease the importation of manufactured goods, but the label "Made in Germany" is becoming more and more in evidence in English stores. It may be depended on that American goods will sell on their merits in any country in the world, if the prices are right. The editor of this journal lately had an opportunity of observing the trade in rubber goods in the leading European countries, with the result of becoming convinced that American rubber products, wherever known, are well thought of, and that nowhere do they encounter a prejudice on account of the country of their origin.

INVESTMENTS IN RUBBER-PLANTING.

ON account of the great number of inquiries which reach us, with regard to making investments in rubber-planting projects, it appears to be proper here to make a general statement of our views on the subject. We have taken pains to collect all the available facts bearing upon the cultivation of rubber, as distinguished from its recovery from forest-trees, placing such information from time to time before our readers. The situation may be summarized briefly, as follows:

No reason is apparent why rubber-trees should not grow from seeds planted by hand as well as from seeds scattered by the winds. Instances are on record of a good yield of rubber from trees reared under cultivation, though nowhere on a large scale. Measured by money standards in this country, the cost of planting and rearing rubber-trees is not great, so that, with an average yield of rubber, a good profit might reasonably be expected. It must not be overlooked, however, that any possible returns must be long delayed, the greater time being required for the more valuable kinds of rubber. What is no less important is the fact that the conditions of life in the rubber-yielding countries are little suited for the natives of countries in the temperate zones.

Any hope that rubber may be cultivated successfully in more favorable climates seems to us wholly unfounded. There is no higher authority on this subject than Mr. Mann, late forest conservator in Assam, who wrote recently in THE INDIA RUBBER WORLD: "The acclimatization of American rubber-trees in Asia has not been a success, and, generally speaking, I am now inclined to think that all rubber plants had better be grown in the countries in which they are indigenous." By the way, there is not, and never was, a large plantation of Pará rubber-trees in India, although a statement is going the rounds in regard to such a plantation, said to cover 200 square miles. More than this, experiments made in Brazil have demonstrated that, while cultivated trees may flourish, they may not yield rubber on a different soil, or at a higher elevation, than is common to the native rubber forests. Thus it will be seen that the business of planting rubber should not be undertaken without considerable caution.

Nothing which appears above should be regarded as inconsistent with previous editorial expressions in this paper. What is of chief importance is the established fact that rubber can be produced under cultivation, under certain conditions, so that the total extinction of existing forests need not deprive the world of rubber. But, as we have been pointing out all the while, the visible supply of rubber grows instead of becoming smaller, making the outlook for the future a matter of less importance to the rubber industry. Yet we are not prepared to say that it would be unwise for capitalists, prepared to wait long for returns, to lay out rubber plantations, provided that it is done under proper conditions in all respects.

But the enterprises now seeking capital for the most part involve the sale of concessions at a large profit to the present holders, and it is a question whether, in most cases, the same investment of capital in gaining new and original concessions, and in working rich virgin forests now existing, would not be wiser than the purchase of any so-called rubber properties now in the market.

THE FAILURE OF A LARGE BICYCLE CONCERN is followed by the statement that $50,000 of its debts, in a total of $141,000, are due to tire-manufacturers. This is more than 35 per cent., though the rubber parts of a bicyle represent by no means 35 per cent. of its cost. Does this mean that tire-makers have been more liberal than any one else in extending credit to the bicycle trade?

THE growing importance of Manáos as a crude-rubber market is indicated by the table of exports from there, printed on another page. It is the first such table to appear.

AN IMPORTANT RUBBER CENTER.

THE importance of the India-rubber industry to the city of Trenton is suggested by the space devoted to the local rubber-factories in a special edition of the *Daily State Gazette*, entitled "Industrial Trenton." Among the establishments written up at length in this paper are the following: Home Rubber Co., mechanical goods, including tires; Empire Rubber Manufacturing Co., mechanical goods, tires and carriage-cloth; The Whitehead Brothers Rubber Co., mechanical goods and tires; Joseph Stokes Rubber Co., reclaimed rubber; Crescent Insulated Wire and Cable Co., insulated wire. These companies do not embrace the whole rubber industry of Trenton, but the list is full enough to indicate the wide range of rubber products in that city.

It is not surprising, in a city where this industry figures to so important an extent, that rubber-men should occupy many positions of influence outside of their immediate business connections. The first page of this paper contains a portrait of the mayor, who is a rubber-man—the Hon. Welling G. Sickel, of the United Rubber Co. Several other city offices are held by rubber-men, including C. Edward Murray, who has been for four years the city clerk, and W. J. B. Stokes, who is the city treasurer.

MACINTOSH—HANCOCK—GOODYEAR.

An English View of India-Rubber Invention.

EDITORIAL NOTE.

THE article which follows is contributed, without solicitation, to THE INDIA RUBBER WORLD, from a highly respectable English source. The writer, who is in a position to enable him to be well informed on the subjects on which he writes, does not, for reasons which appear satisfactory, desire to be named. We assume no responsibility for the statements appearing in the article, beyond vouching for the good character of our contributor. No doubt many of our readers will be pleased to find an English writer giving so full a measure of credit to an American inventor.

CHARLES MACINTOSH was an industrial captain of whom any country might be proud. He was a noted chemist and the inventor of *double-texture* waterproofs and coats, and of other applications of India-rubber. Born in Glasgow, Scotland, on December 29, 1766, he died at the neighboring town of Dunehattan on July 25, 1843. His father was a merchant, who sent Charles first to the Glasgow grammar school, and afterward to a school in Yorkshire. On leaving school his real education may be said to have begun; he was a self-educated man.

As a Glasgow clerk, young Macintosh's evenings were given to chemistry, a study which did not long agree with his clerkship. Chemistry triumphed. We find him at the age of nineteen manufacturing ammonium chloride, known in commerce as sal ammoniac. Next year colors and the dyeing of fabrics were the objects of his researches. Mr. Macintosh now found that butcher's, baker's, and other household bills hindered his laboratory work, so he took to himself a wife who at once liberated our chemist from such details and proved in every way a fit helpmate. Alum was for the first time manufactured by him in Scotland. In 1799 he joined Tennant at Glasgow and shortly after invented chloride of lime, or bleaching powder, which made Tennant's works widely known. This connection lasted fifteen years. In 1823 his discoveries in chemical science led to his election as a fellow of the Royal Society, London.

In the following letter we see the waterproofing manufacture in its original suggestion:

DUNEHATTAN, ARDOCH,
BALLOCH CASTLE, LOCH LOMOND,
March, 1823.

I am not sure but I may be in London by-and-by, although very certainly not if I can help it; for, after much plague and torment, I have got a certain process for making every sort of fabric completely waterproof perfected. I am taking out a patent for it, which I would never have thought of doing if Lord Ellenborough had been alive, for he most cruelly broke a patent of mine at the very moment the discovery was saving the County Palatinate of Lancaster £15,000 a year, for which the Lord have mercy upon him. I wish these discoveries of mine may not end me at last in the hospital, although I believe I would have an easier life there than the way I am.

I hope God will take you into His holy keeping, and that you will believe me,

Your very faithful

CHARLES MACINTOSH.

We have seen Mr. Macintosh for a period of nearly forty years experimenting with ammonia, in one form or another. In 1785 it was ammonium chloride; in 1823 he wanted pure ammonia; fortunately the Glasgow gas-works were burdened with their waste products, tar and ammoniacal water, and were eager that Mr. Macintosh should have this waste at a very cheap rate for a term of years. Mr. Macintosh, while distilling the tar, found *naphtha*, just the very thing, a cheap solvent, with which he dissolved India-rubber to make a varnish. The varnish he applied to cloth, and to overcome the stickiness of the rubber varnish he sandwiched it between two cloths. In June, 1823, Mr. Macintosh took out patent No. 4804, which contains two claims, first, naphtha, or coal-oil, or cheap solvent; second, double textures, or compound fabrics.

He manufactured waterproof articles in Glasgow for some time, but on forming a partnership the manufacture was removed to Manchester. In 1825 Mr. Macintosh granted to Thomas Hancock, of London, a license for the use of his patent, and this grant eventually led to a partnership between Macintosh, Manchester, and Hancock, London, under the then existing name of Charles Macintosh & Co. Although now a rubber-manufacturer, Mr. Macintosh continued his experiments and patented a process for converting malleable iron into steel; he was also joint-patentee with J. B. Neilson for the "hot-blast process."

Mr. Macintosh did not live to see Charles Goodyear's splendid invention of vulcanized India-rubber, which shortly after made so great an improvement in Macintosh's own famous invention of double-texture waterproof coats; that a "Macintosh" coat is now a desirable and becoming garment.

* * *

THOMAS HANCOCK, an early English India-rubber manufacturer and inventor of the "Masticator," was born at Marlborough in May, 1786, and died at Stoke-Newington, London, in March, 1865. His father was a carpenter. He attended the village school for awhile and then began life at his father's trade, acquiring considerable skill in the use of tools. By 1818 he was in London. A year later he commenced to manipulate India-rubber. His first patent is dated April, 1820, and claims the use of elastic springs for wearing apparel. During the same year he began a series of experiments with the object of uniting together all the small pieces and cuttings of Pará bottle India-rubber, which he made in his workshop.

Mr. Hancock next invented the "masticator," but, strange to record, he did not take out a patent; doubtless this idea was his own. His first masticator was of wood with a capacity to grind two ounces of rubber scraps at a time. This experimental machine proved successful. Mr. Hancock explained his wants to a good firm of London engineers, who made an iron masticator to turn out sixteen ounces at a time. In 1821 Hancock started the Goswell mews factory in London, where new and larger masticators

were made and driven by horse-power. This invention was the origin and commencement of the "fine cut sheet" manufacture which is now an important branch of the India-rubber trade.

Early in 1825 Hancock was granted a license by Charles Macintosh for the use of the latter's valuable patent for naphtha or cheap solvent, and double textures or compound fabrics. In 1830 Macintosh made trials of the proofing solutions made by Hancock; these solutions proved to be superior, as they were made of masticated India-rubber. These trials caused Hancock to pay his first visit to the Macintosh works at Manchester. In January, 1838, Hancock took out a patent for making solid rubber sheets by the spreading process. This was after Charles Goodyear of the United States had inserted in the English papers a notice of the same process patented by Goodyear in America in June, 1837.

Mr. Hancock, in his "Personal Narrative," states explicitly that, in 1840, a gentleman from Paris gave him a small piece of cambric, with India-rubber on one side, a kind of table mat; also a piece of solid sheet rubber. These articles had been made and cured (vulcanized) by Charles Goodyear, of the United States, and sent by him to Paris. This is the first mention in England of *single texture* waterproof articles, and of India-rubber *cured* or *vulcanized* with sulphur.

In 1842 a Mr. Moulton, an Englishman resident in America, but who afterward became an India-rubber manufacturer at Bradford-on-Avon, Wiltshire, England, was sent to England by Charles Goodyear, with samples of "vulcanized India-rubber" made by the latter's now famous process of curing rubber with the combined use of sulphur and heat. Mr. Moulton left samples with William Brockedon who gave portions to Mr. Hancock. Both these gentlemen were partners in the firm of Charles Macintosh & Co., Manchester.

Mr. Moulton explicitly stated that Mr. Goodyear expected to get $250,000 for the rights for his invention in England. This was a modest sum to ask, for, if the invention was worth anything, it was easily worth $2,500,000, and subsequent events showed Goodyear's invention to be immensely valuable. Mr. Goodyear's introducing vulcanized India-rubber to the manufacturers of England, and offering to sell to them his invention, puts out of the category of human possibilities Hancock's invention of vulcanization. In 1843 Mr. Hancock, instead of negotiating for the purchase of this invention which had been offered to him, made use of the samples and information which had been given to him in strict confidence, both verbally and by correspondence. He took out his "vulcanizing" rubber patent, dated November 21, 1843, and accepted on May 21, 1844.

In applying for his patent Mr. Hancock left out one of the two essentials in that he made no mention of *heat*. Hancock's action, so far as concerned the real inventor, Goodyear, proved most disastrous to the latter. It was the main cause of Mr. Goodyear dying in debt. He became so involved in heavy expenses incidental to his first experiments, and although he tried very hard for seventeen years to pay off all his first obligations, he never became able to do so. The account might be drawn up as follows:

Goodyear's price for his English rights which amount is still outstanding	$250,000
Goodyear's final debts	200,000
Balance for the Goodyear heirs but for the piracy of his invention in England	$50,000

In 1851 Mr. Goodyear came to England to see Mr. Hancock, but he could not obtain decent treatment, and finally closed the negotiations. Unsuccessful attempts were made in 1851 and 1855 to get Hancock's patent recalled and repealed. In 1855 Mr. Goodyear told his plain tale to Lord Justice Campbell (Court of Queen's Bench) who summed up to the jury, and said "that if Goodyear's invention was prior in point of time, it was not handsome in Hancock to look at his specimens and to try and find out his discovery; and if Goodyear was the inventor, it was to be regretted that he should not have the benefit of the invention."

India-rubber men in England review these transactions with a sense of shame. One thing quite certain is that Hancock will never be allowed to appropriate the fame of having invented vulcanized India-rubber, the credit for which belongs to Goodyear alone. Hancock's story book is entirely untrustworthy in respect to this subject. The last paragraph reads: "Though called upon to do so, we have never interfered in the disputes on this question abroad [*i. e.*, the vulcanizing invention] nor have we made any attempt to monopolize any portion of the rubber trade in America, or any other foreign country."

* * *

CHARLES GOODYEAR was born in New Haven, in December, 1800, and died in New York in July, 1860. He was the most notable man that the India-rubber manufacture has known. He is even now in advance of our own times, since what he foretold of the capabilities of India rubber is not fully achieved. It may be mentioned that Goodyear was never tired in telling his licensees that thin sheets of India-rubber would be best cured by passing them slowly through a hot-air chamber, but no one believed him. We now fulfil his prediction by passing very thin sheets of India-rubber through hot-air chambers.

Mr. Goodyear began to experiment with India-rubber in 1833, and for twenty-seven years without ceasing continued his experiments. He, himself, would say he was called to experiment with India-rubber, and he loyally followed his calling through sickness and poverty.

Goodyear had invented the "acid-gas process" applicable to thin sheets of India rubber, for he clothed himself in *single-texture* waterproof garments, and was known by them to the citizens of New York. A gentleman said to an inquirer: "If you meet a man who has on an India-rubber cap, stock, coat, vest, and shoes, with an India-rubber money purse without a cent of money in it, that is Goodyear." But in 1839 Mr. Goodyear invented vulcanization.

Benjamin Silliman, professor of chemistry at Yale College, whose good name is held in the highest respect

throughout the scientific world, manifested a lively concern in Mr. Goodyear and his invention. This eminent scientist and physicist enables all workers in India-rubber to fix the year in which Mr. Goodyear gave vulcanized or cured India-rubber to the world. Professor Silliman's certificate follows:

YALE COLLEGE, }
October 14, 1839. }

Having seen experiments made, and also performed them myself, with the India-rubber prepared by Mr. Charles Goodyear, I can state that it does not melt, but rather chars by heat, and that it does not stiffen by cold, but retains its flexibility in the cold, even when laid between cakes of ice. B. SILLIMAN.

Mr. Goodyear states that his invention—vulcanization—was the result of the closest application and observation. From 1839 to 1841 the public, in America, would not hear of India-rubber. Had they not already subscribed and sunk millions of dollars in trying to develop the industry? People knew Mr. Goodyear as an entirely honest man, but they styled him an "enthusiast" and "visionary." In 1841 he started a factory in Springfield, Mass., and fully demonstrated the utility of the vulcanizing process. He next deposited a claim in the patent office of the United States, but he had not the means to take out simultaneous patents, in the United States, France, and England, until 1843, when he instructed W. E. Newton, a patent agent in London, to take out a patent. This was before Hancock's application, but from some unexplained cause Mr. Newton neglected to follow up his instructions promptly.

In 1852, when the Goodyear patent was being assailed on all sides by pirates, his licensees subscribed a purse of $25,000 for the eminent lawyer Daniel Webster to defend the patent. Mr. Webster asked as to the originality and priority of the invention, "If Charles Goodyear is not the inventor of vulcanized rubber, who is?" There was no answer. All the many eminent lawyers in the crowded court-room remained as silent as the grave.

In 1855 Goodyear received a gold medal at the Paris Exhibition, and be it said to the credit of Napoleon III that he decorated Mr. Goodyear with the cross of the Legion of Honor, the highest expression of appreciation of genius in the gift of the French court. America has been remiss in not raising a monumental bronze, in Boston or New York, to this benefactor of mankind. What Washington, Lincoln, and the effect of their deeds are to the American people, what Milton and Shakespeare are to poetry, Bacon to philosophy, Watt to steam, Stephenson to locomotion, so is Mr. Charles Goodyear to the India-rubber manufacture and the increased comfort and convenience of humanity.

London, England, May 27, 1897. **E. C.**

A CARD.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I am in receipt of your favor dated 25th inst., enclosing an article you propose publishing on Messrs. Hancock, Macintosh, and Goodyear, and I thank you for sending me a proof of the same. I do not wish to enter into any discussion or make any suggestions as to this article, the actors having long ago been laid to rest; but I may mention for your guidance that with regard to my great-uncle, Mr. Thomas Hancock, whom I can well remember, your contributor makes many errors, undoubtedly from ignorance. I am sorry to see that he attacks Mr. Hancock in so venomous a spirit, perchance he is an excitable gentlemen who has written the article in a hurry. Yours faithfully, JNO. HANCOCK NUNN.

London, June 29, 1897.

THE LIMIT TO THE USE OF AFRICAN RUBBERS.

NOT A TRUE SUBSTITUTE FOR FINE PARA.

NOT a few rubber-men have expressed their interest in the success, reported in the last INDIA RUBBER WORLD, of a certain superintendent in obtaining a good substitute for fine Pará rubber, at a low cost, by the combination of different grades of Africans. Naturally inquiries have come in for additional particulars, but it happens that nothing farther from the same source can be given out just now. We have obtained, however, the views of an authority, on what might be expected to follow the wide adoption of the processes of the superintendent referred to, in case they should prove as successful as he claims.

"In the first place," he began, "every increase in the demand for any grade of rubber tends to raise its cost to the manufacturer. Suppose, then, that certain African sorts should be found truly to yield a substitute for Pará. How long would the present difference in price continue? There would be a steady rise in Africans until it would be economical no longer to use them instead of Pará rubber. This consideration would soon put an end to any hope for great profits from substituting low-priced African gums for the higher-priced sorts from South America.

"But it remains to be proved that the African rubbers are capable of such use as has been asserted. Of course great advance has been made in their manipulation, permitting their use in channels where, not so many years ago, it would have been impossible. It is reasonable to suppose that the use of Africans will continue to extend in new directions, but the experience of every manufacturer who has ever had anything to do with these sorts has helped to make him conservative. It is not enough that apparent good results should be attained at the beginning. The manufacturer must consider the durability of his goods. I can understand how a bicycle-tire might be produced, by compounding low-grade rubbers, which might look as well as any other in the market, and might wear as long as people are accustomed to use tires. But many articles of rubber are called upon to withstand a longer usage. Suppose that some of this new compound should be used in making rubber thread, and that, after a year or more, a merchant should find the rubber in the elastic goods in his store suddenly giving way. Unless the goods were replaced by something guaranteed to wear, his patronage would go speedily to another manufacturer.

"Rubber-thread manufacturers cannot afford to use grades of gum to which they are unaccustomed. They cannot afford to keep threads in stock for a year or two before making up goods, to see how they will stand the test of time. This would be more expensive in the end than the use of Pará rubber, the product of which can be made up immediately, even supposing that the threads made of African rubber did prove in the end to be of good quality. But every thread-manufacturer in this country to-day is of the belief that, no matter how fair the appearance of threads made from African sorts, they will give way speedily in use, on account of the resinous con-

tents of the gum, from which it cannot be freed by any process in manufacture."

THE FUTURE OF THE DEMAND FOR CONGO SORTS.

IF the rapid increase in recent years in the output of Congo rubber should keep up long, there would be more of that class than of any other in the market. The arrivals from the Congo reported at Antwerp during the first five months of this year were more than twice as large as during the same period in 1896, and twelve times greater than in 1894. It is commonly reported, and with apparent good reason, that the supplies of India-rubber in the Congo basin are enormous, while the native population throughout that section is so great, and sufficiently tractable, to be available everywhere for tapping the vines. The idea has been held out, therefore, that with the completion of the Congo railway next year, greatly lessening the cost of transportation, a large addition to the rubber traffic might be expected. But a member of the trade who has been interviewed for THE INDIA RUBBER WORLD entertains the view that the limit of the Congo rubber trade soon will be reached.

"It is not the question of how much rubber there is in Central Africa," he said, "or of how many laborers can be had. It is not even the question of transportation that is most important, but how the rubber is going to find a market. Pará rubber always has been and always will be the mainstay of the rubber industry. There is a demand, of course, for African rubbers, and this will grow, but from this time on it will be only in the same proportion as the rubber industry grows as a whole. When the limit to the demand for Congo—or any other—rubber has been reached, the production will fall off, and this is why I say that we are not going to see such a great lot of Central African rubbers coming to market in the next few years as some other people think. Let the market once become overstocked with these grades, and prices will fall below the cost of producing and shipping them to market."

REGISTRATION OF RUBBER AT ANTWERP.

THE methods of selling rubber in the Anwerp market, by "inscription" or "registration," have given use to wide criticism, especially among German buyers. This subject is discussed in a circular addressed to the members of the Society of German Rubber Manufacturers and signed by their chairman, Carl Maret, a copy of which has been sent to THE INDIA RUBBER WORLD. The custom is this: After the holders of rubber announce their offerings, in a public selling bureau, the broker employed by them appraises the several lots and prepares a catalogue, in which the quantity and quality are stated, but not the owners' names. Buyers of rubber are invited to send in sealed bids to the bureau, the inference being that the lots will be turned over, each to the highest bidder. Dates for these sales are so fixed as permit the catalogues, and even samples of the rubber, to be mailed to the leading buyers in Europe in time to permit them to make bids. They sometimes reach New York in time.

What the German buyers want is a system of open bidding. They want also to know by whom the rubber is offered, or whether the persons in whose behalf bids are invited are commission merchants, agents for the seller, or actual sellers. The impression appears to prevail that a "ring" exists within the selling bureau, through which the various bids sent in become known to the sellers in advance of the sale, the knowledge being used sometimes to induce bidders to raise their figures. At a recent meeting of the German Society it was decided that its members should cease buying in the Antwerp market unless new rules should be adopted there. But as the Congo Free State, the principal importer at Antwerp, opposes the suggestions made in Germany, nothing has been accomplished except that the names of sellers are now given in the sales catalogues.

A rubber-importer in New York, when asked by THE INDIA RUBBER WORLD about the "broker's estimation" placed upon the rubber offered at the Antwerp sales, said that it bore no relation to the prices obtained. Often more is bid, but the contrary is just as apt to be the result. Thus after a marked rise in Pará rubber, the broker's estimation on some offerings at Antwerp was 10 centimes per kilogram higher than at the preceding sale, but when the bids came in, the best was 20 centimes below the figures paid previously. The importer mentioned here is of the opinion that other African rubbers than Congo sorts find their way to Congo and help to swell the total of sales. Some lots, he asserts, of rubber shipped there from Liverpool, brought higher prices under the secret "inscription" method than they could have brought in the open market in England, and he thinks that the reputation of the Antwerp market is in danger from such methods.

OUR GERMAN CORRESPONDENCE.

VIEW OF A BERLIN RUBBER-STORE.

THE Leipsic Rubber-Goods Factory, established at Leipsic in 1864, can look back upon thirty-three years of continuous activity. The show-window of their extensive branch-house in Berlin (No. 126 Leipzigerstrasse) is perhaps the most attractive of the kind in the German capital, and a view is presented here in the belief that it will interest readers of THE INDIA RUBBER WORLD elsewhere.

According to information courteously given by their Berlin manager, Mr. Schiff, the company now employ 300 hands in their factory. Their specialties are surgical articles, in hard and soft rubber, and waterproof goods. Among the latter, a new bicyclists' cape, selling for 10 to 15 marks, is rapidly becoming popular. An important specialty of this firm is elastic hosiery, for sufferers from varicose veins, of which different styles are made—"loin" stockings, "knee" stockings, "knee-pieces," "calf-pieces," "ankle-pieces," and ordinary stockings, all of which appear to be practical. An automatic atomizer, in the form of a nickeled ball, with standard made to attach to a water-faucet, emitting sprays for some length of time, is a novelty in the local market.

The sales of this store are confined by no means to the firm's own manufacture. "Goodyear Glove" rubber shoes, kept in stock here, sell at $1.40, or 25 cents higher than those of Russian make. American-made girls' and children's rubber sell here at 75 cents a pair. Here's another nut for American exporters to crack! Russian A No. 1 canvas gymnastic shoes, with rubber soles, are sold by this firm at 75 cents to $1 a pair. In this branch the Russians have the monopoly, owing to the new commercial treaty. The American "Alpha" syringe is retailed here at a fraction less than $2.

The center of the show-window in this store would, at once, attract the attention of an American exporter, being a pyramid, covered with American-made impervious dress-shields, an article at present selling well here. The pyramid is surmounted by a large rubber doll, of a color in which children delight. At the base are tennis-shoes, balls, caps in the Prussian colors, (black and white); at either side, rackets, and ball-nets. The

background is fittingly occupied by full-length rubber suits, including the cycling-cape mentioned above. On the right and left are two large folding baths. On the right side of the window are the Slazenger lawn-tennis balls (English make), Peck's pneumatic curlers, and brown and red menagerie. Above are domestic animals, while the lowest glass shelf contains all arms of the Prussian service, very attractively displayed. On the left side of the window are irrigators, syringes (German), rinsing apparatus for suppurating ears, inhaling apparatus, ear-trumpets, suspensories, and an "Alpha" syringe. Orange and negrohead balls, a French cuirassier mounted, a swimming frog and fish are the latest toy novelties. Collars and cuffs, of English make, and the Goodyear Glove rubber boots and shoes top off this window display. The photograph from which this picture is made was taken for THE INDIA RUBBER WORLD by one of Berlin's first photographers, Mr. V. Scheurich, an American citizen.

GERMAN RUBBER NOTES.

AMERICAN rubber goods of all kinds are in good demand in this country, owing to their light, elegant and at the same time substantial make. Certain lines of their goods, such as syringes and door-mats, are here almost unknown. For syringes there ought to be a good demand, as those of German make are exceedingly clumsy and unpractical. Russian rubber shoes still rule the market, the only wonder being that American rubbers are not to be found on sale. Arctic gaiters are something unknown. Rubber mattresses, especially for hospital use, the writer has never seen in a Berlin hospital.

=The Russian rubber export trade steadily increases from year to year, though the rate of profit does not advance proportionately. The Russian American Rubber Co. have just paid a dividend of 41½ per cent. on the business of 1896, against 50 per cent. on the business of 1895 and 55 per cent. for 1894. The capital of the company is 4,500,000 rubles.

=The Continental Caoutchouc and Gutta-Percha Co., of Hanover, at the meeting called for June 26, moved to increase the capital stock by 2,100,000 marks—a sign of the increasing prosperity of this company.

=The latest German novelty in the rubber line is erasive rubber for office and boudoir use, in the shape of animals, although it is not plain how to handle these zoological specimens.

=The *Gummi-Zeitung* (Dresden) is pleading for a higher duty on rubber shoes, in view of the rapid increase in the importation of such goods from Russia—about tenfold since 1889. The German duty is now only about 8 cents per pair, whereas Russia imposes a rate of 35 cents per pair.

A GERMAN VIEW OF PRICES OF RUBBER GOODS.

From the "Gummi-Zeitung."

ADVANCING prices of raw material along the whole line, and falling or stagnated selling-prices of manufactured goods, is the *signum* under which the rubber industry at present is compelled to work. This condition plainly showed itself during the past year, but during the first quarter of the present year it became more acute, and to-day is so apparent that its influence is felt throughout the entire industry, and it becomes an urgent necessity to find ways and means to stem this tide of disproportion, a continuance of which is bound to be disastrous. It was expected last year, when, after a slow but steady rise in the prices of raw material, the price of crude rubber reached the highest point ever known, that this advance was only a temporary one, and that a brief abstinence from buying would bring it to an end. This expectation has not been realized, but, on the contrary, the advance in prices has become so decided that no hope of cheaper rubber in the near future can be entertained.

In addition to this, came the fact that the firm prices of Pará had caused an advance in the poorer and medium qualities of rubber, Africans even advancing, so that the whole market has become tight. Fine Pará has been quoted lately at 3*s.* 8*d.*, being an advance of 25 per cent. over the average prices of last year, while a like condition exists in other leading brands. Still another thing is of importance: The unusually large demand for crude rubber requires its continual prompt delivery, so that the quantity in storage is at a minimum. The materially shorter steamer connections meeting the demand for prompt deliveries, necessarily places the crude rubber in the hands of the manufacturer in a more moist condition than formerly, making larger the loss by the washing and drying process. Twenty to 22 per cent., against 18 per cent., as formerly, may be taken as being the loss to be calculated on. This increased loss on washing and drying advances the gross price of crude rubber a further 10 per cent. Not only this, but the textiles and other materials used in connection with rubber have also advanced quite considerably.

It would seem reasonable to expect that, under these conditions, the prices of manufactured rubber goods would at least be firm, but this has not been so. On the contrary, they are inclined to be weak, and although a number of the leading German manufacturers endeavored last year to carry out an advance in prices, this sinking tendency has cropped out again in several sections. That a rise in prices was at all possible is accounted for in several ways. First to be mentioned is the favorable condition of the German rubber industry—the supply not exceeding the consumption. The steadily-increasing demand permitted the use to their fullest extent of the existing manufacturing facilities. This cheapened the general working expenses, and therefore the high prices of the raw material was in a measure offset. On the other hand, the high prices of Pará rubber were met in some cases by the use of cheaper grades formerly overlooked, which proved to be serviceable. Again, compounds were repeatedly tested and revised, and it was found that the amount of pure rubber could be lessened in some cases without detriment. The use of reclaimed rubber also increased, and new substitutes were introduced; in short, manufacturers have endeavored in every way to counteract the high prices of crude rubber by using all possible economy in

material and manufacture, compatible with a good product. That in this respect some manufacturers went beyond the permissible border, sacrificing quality for low selling-prices, must also be mentioned.

But everything in this world has an end, and the means with which the rubber-manufacturers met the high prices of crude rubber are no exception. The poorer qualities of crude rubber have advanced so much in price that at the present firm condition of the market they can no longer be considered as a help. The increase in production which was a factor in lessening the price of manufacture, and which was quite pronounced last year, has come to a standstill; at least it will not advance in the same measure as formerly. To reduce the quality of the product can but prove a damage to the whole rubber industry, consequently the only alternative remaining to manufacturers is to *estimate on higher selling-prices within the near future.* This is their only possible and natural way to get out of the dilemma, and the only means to maintain the rubber industry in a healthy condition on a solid and honorable basis, which until now has distinguished it from many other industries. How this advance in prices will become a fact must be left for time to determine, but that it has become a necessity cannot be doubted. We are sanguine that the rubber-goods trade will not oppose a policy so well calculated to benefit it.

KLEINERT WINS IN AN ENGLISH COURT.

[BY OUR BRITISH CORRESPONDENT.]

AN injunction was asked for in England in May last by the Kleinert Rubber Co. against Messrs. Fayaud et Cie., of Paris, to restrain them from copying their "Gem" dress-shields and selling an imitation in the English market. A good deal of legal talent was arrayed on both sides, and from the evidence taken it would appear that the business done by the Kleinert company warranted such an outlay. From the statements of Mr. H. T. Hobart, Kleinert's London manager, it was shown that the French company's goods were originally almost black, but had now been made more like the lighter-colored "Gem" shield. The Kleinert company first began to sell their goods in England in 1894, and in the first year did an $100,000 business, while in the present year they are likely to do a $400,000 business. They have spent over $20,000 in advertising, and have copyrighted the "Gem" in the United States, but its previous use in America has prevented them doing so in England. A guarantee has always been given with every pair of "Gem" shields.

The Kleinert Rubber Co. were, moreover, the first to use Japanese silk as a covering for the rubber, and great stress was laid on the Kleinert guarantee label having been so copied by Fayaud et Cie., that a purchaser would be likely to believe that he was buying the "Gem" shield. The Kleinert company also claimed that their goods were made of pure Pará rubber, while the "Champion" shield, made in France, was of a cheaper compound, and was not odorless, and while originally put up in yellow boxes had latterly been sold in white ones in imitation of the American-made article.

On the other hand, Messrs. Fayaud et Cie. contended that the Kleinert label was a copy of their original label, and that even if the labels, etc., were more or less identical, they were entitled to do what they had done as fair competitors in trade.

The Kleinert company won their case, however, and an injunction was given them without damages, the judge basing his decision on the French company having so altered their labels, etc., that an attempt to deceive the public was practically made.

RANDOM NOTES FROM PARA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: A rubber-exporter of Manáos writes as follows to the *Amazonas Commercial*, of that city:

"Some Americans are undertaking in our country to monopolize our exportation products, which are the sources of our real riches. What surprises us is that these foreigners are sons of a country whose government is strongly opposed to monopolistic ideas. These Americans wish to organize a company to monopolize the rubber markets. They wish to obtain in the two states of Pará and Amazonas a privilege to start factories to extract the water and dirt from the rubber, cleaning and drying it for export. Were it this company's desire to establish manufactories for the rubber articles which we import, it would be another matter.

"But a privilege of this kind would mean the ruin of the finances of the two rubber-producing states. And why? Rubber is their principal product, in bulk; it is the source of our heaviest receipts, exported as it now is, in crude form. Exported as this company wishes it—*i. e.*, clean and very dry—there would be a difference of 30 or of 35 per cent. in weight. And this would mean a loss in revenue each year of over 5,000,000 milreis.

"Perhaps the government may think this loss could be avoided if they increased the rubber export taxes, but this 'privilege' forbids the competition in the market of outside buyers. Now there is complete liberty to all buyers, of whatever country, but with this privilege it would be left in the hands of one alone. And in what circumstances would be left the *seringueiros?* Surely, this company do not wish to betray the good faith of our country."

* * *

MR. OTTO PRÜSSE, of the Manáos firm of Prüsse, Pusinelli & Co., and the German consul in that city, has returned from a year's holiday in Europe, looking remarkably well. He spent a fortnight in New York, besides visiting Boston and some other cities and making a trip to Niagara falls.

Mr. Henri Condreau has again left for the river Itacayunas, on a scientific and exploring expedition, his object being in part, as usual, the discovery of new sources of rubber.

Senhor Antonio J. Lemos, editor-in-chief of the *Provincia do Pará*, has been elected mayor of this city. He is an able, energetic, and hard-working man, who has contributed not a little to the progress of Pará.

The Baron de Marajó, ex-president of the state and ex-mayor of the city, has gone for a visit to Europe.

The organization is reported, in the Peruvian town of Chachapoyas, of a plan for more closely connecting, by a well-laid road, the rubber regions of Amazonas and Loreto.

GRAO PARA.

Pará, Brazil, July 10, 1897.

HARD-RUBBER NOZZLES NEEDED.

GEORGE MOFFAT, in the *Street Railway Journal*, says that while many electric stations have installed air-pumps to blow dirt out of armatures, that for such purposes it is not at all advisable to use the ordinary brass nozzle, owing to the liability of accident; and further that it cannot be used in close quarters, because of its blunt nose. He suggests therefor a nozzle made of hard-rubber, with a comparatively sharp nose, running quite thin nearly its entire length. With such an appliance all parts of the armature could be easily reached with a jet of air, and all dust and foreign matter readily removed.

RUBBER TO PROTECT HORSES' HOOFS.

A CITIZEN of Buffalo, N. Y., writes to the New York *Tribune* to say that the iron shoes on his horses become heated on the asphalt pavements for which that town is noted. He tried India-rubber between the shoe and the foot, and thought it an excellent remedy to prevent the heat reaching the hoof. He also found that it was a splendid means of lessening the concussion on the hard, unyielding roadbeds; without a doubt half the lameness in our horses is caused by the unnatural conditions under which they are obliged to travel, and rubber possesses a resiliency that can counteract the concussion on the asphalt and also prevents the heat from the shoe reaching the foot.

This writer objects to India-rubber very seriously, however, on account of it being necessary in shoeing to hold it in place and cover the entire foot, and thereby exclude all air, which will, in time, surely ruin the animal's feet. It would seem as if some Yankee inventor could get up a shoe with a piece of rubber attached to the top in such a way that it would cover no more surface on the foot than an ordinary steel shoe. Several years ago a friend of the Buffalonian residing in England sent him several sets of rubber horseshoes which had a piece of rubber securely attached to that part of the shoe which comes in contact with the wall of the foot. He found it a splendid arrangement to relieve the concussion; but at that time Buffalo had but little asphalt, and consequently he did not realize the advantages of such a shoe, and he asks now whether something suitable cannot be invented on similar lines. Doubtless if the person referred to were to make inquiry among dealers in horse goods he would find a variety of rubber-cushioned horseshoes, one of which would prove satisfactory.

* * *

AT the first public meeting of the Worcester Civic Club (Worcester, Mass.), in a discussion on the condition of the streets of that city, Dr. Thomas C. Mendenhall declared that the iron shoes of the horses do more than anything else to keep the streets in a bad condition, and suggested as a remedy for this evil rubber shoes, to go with the rubber tires now coming into general use. The streets of Japanese cities he described as being very clean, due in a great measure to the fact that there are few horses in the country, and that they are shod with straw.

* * *

ALL the horses working at the great placer mine under the shadow of Pilot Peak, Plumas county, Cal., wear snowshoes. The altitude of the place is about 5500 feet, and in winter the horses often work over twenty feet of snow. One of these shoes consists of a thin steel plate eight inches in diameter, with holes through it for the calks or the ordinary shoe. The plate is fastened by a steel spring to the lower part of the hoof. On the bottom of this steel plate is a coating of India-rubber, which keeps the shoe free entirely of snow, whereas, before the rubber was used, snow used to clog and fill up on the plate and the horses would slip and fall. But with the rubber on they rarely fall.

AMERICAN RUBBERS IN AUSTRALIA.

AMERICAN rubbers have not so far gained much hold in the Australian market, says a correspondent of the *Boot and Shoe Recorder*, though these goods are superior to any local made (only two little local forms in Melbourne that go in for rubber soling and heeling boots and shoes and that turn out the goods in that material) and to most of the British makes floating about in these colonies. The North British Rubber Co. (Edinburgh, Scotland) seem to do the most in supplying the demand here at present, which is never very strong, owing to the absence of snow and shortness of cold and wet seasons. The coldest and most wintry months are end of May to end of August, but Victoria has of late years, I am informed, become very "Englishlike" in its weather and temperature, and the winter is much more severe than in either New South Wales or South Australia. Of course right up north in Queensland you get it hot, as the tropical line of Capricorn passes through that colony a hundred miles or so above Brisbane.

AMERICA AS A COMPETITOR IN RUBBER.

FROM "DIE GUMMI-ZEITUNG" (DRESDEN).

THE endeavor of the rubber industry in the United States hitherto has been to supply the home market, to the exclusion of foreign-made goods. At present, however, it seems that in this industry, as in others, overproduction has taken place, and that a considerable surplus of goods has no call, and the necessity of finding a foreign market is evident. With the conviction that the home product is better suited to the requirements of Americans than that imported, the question arises, why, for this reason, the inhabitants of other countries should not also become buyers. We are of the opinion that it is just this argument which is least applicable, because the very first consideration in the export trade is to cater to the tastes and requirements of the countries in which goods are to be disposed. It will be a useless attempt to force on them unconditionally the American product.

THE INDIA RUBBER WORLD, recognizing this, calls attention in an editorial to the fact that the disposal of rubber goods in foreign countries is possible only by great exertion, since goods finding a ready market at home may require entirely new methods for their sale. Not a few Americans have tried on a large scale to win the foreign market, but most of these endeavors were stranded on identically the same obstruction, *i. e.*, terms of payment. The American system of sight-drafts on shipments of goods is certainly a safe one, but people in foreign countries are accustomed to an extension of time of from thirty to sixty days. Other exporting countries, such as England and Germany, grant such time, and considerable business is lost to Americans because they cannot adapt themselves to such business methods.

THE INDIA RUBBER WORLD, therefore, proposes a new credit-reporting system for American exporters, suitable to the condition of the respective countries. It may certainly be expected that the American rubber industry will make strenuous efforts to introduce its goods in such foreign markets as are not already glutted. The success of this step is to be awaited.

AMERICAN FOOTWEAR IN LONDON.

THE American Shoe Co. (H. E. Randall, Limited), have opened a shop at No. 169 Regent street, London, for the sale of American leather shoes, their stock being supplied mainly by four important manufacturers in this country. This step has been taken as a result of the success which has attended recent efforts to introduce American shoes in England. It is of interest to note that American rubber footwear is kept in stock in the Regent-street shop. If our leather goods find a market abroad, there can be no reason why our rubbers should not be sold under the same conditions.

THE EMPIRE STATE RUBBER CO.

THERE has been incorporated, under the laws of Virginia, a company with the above title, with capital authorized to the extent of $1,000,000, to handle real estate, to manufacture India-rubber goods, and to buy and sell raw materials and manufactured products. The president and treasurer is Thomas Curtis Clarke, civil engineer, No. 44 Broadway, New York. The vice-president is Thomas C. Clarke, Jr., at the same address. The other directors are A. Bonzano, civil engineer, of Philadelphia; John F. O'Rourke, engineer and contractor, New York; and J. W. Willcox, of Norfolk, Va. The new company have opened offices at No. 127 Duane street, New York, where, in addition to the names of the officers mentioned, the glass doors bear the names of Edwin Elberson, sales-manager, and Herman Clarke, general-manager.

THE INDIA RUBBER WORLD'S inquiries have resulted in bringing out this statement: "This company has been formed to make an arrangement with the Liberty Rubber Shoe Co., and the North American Rubber Co., both incorporated in New Jersey and having factories at Setauket, L. I. Their corporate status is in no wise changed. They are under contract, however, for five years to manufacture such goods as we may order, while we are to supply all the materials required and make advances of money, if need be. We are also to take the goods manufactured, at a fixed price which will permit of a profit in the manufacture, whether or not we make a profit as selling-agents. We have no connection whatever with the United States Rubber Co.; we are in competition with them. It is too early to answer your query about our plans for engaging in the crude-rubber business."

RUBBER INDUSTRY IN MASSACHUSETTS.

A WORK of special interest and value is being prosecuted by the Massachusetts bureau of statistics of labor, in the preparation of a yearly report on industrial conditions in that state, based upon definite returns, year after year, from identical establishments. The result is not meant to show totals of all the business in the state, but the trend of business. The report covering the year 1895* has been delayed by the fact that the bureau has had charge, at the same time, of the decennial census of the state. The comparisons afforded by the volume may, nevertheless, interest those of our readers who have given their attention to former reports in the series. First will be considered the advance made in the "Rubber and Elastic Goods" industry in Massachusetts during ten years, as compared with the advance—or retrogression—in all the 76 industries covered by the report. The number of rubber factories reporting regularly for ten years past is 19, while the number reporting in all industries is 2427. The comparison follows:

	Rubber Industry.	per cent.	All Industries.	per cent.
Capital invested	Increase	15.4	Increase	4.6
Stock consumed, value	"	139.8	"	22.8
Goods made and work done	"	123.2	"	26.4
Number of persons employed	"	93.5	"	16.5
Amount of wages paid	"	156.7	"	35.
Average yearly earnings	"	22.3	"	15.9
Proportion of business done (compared with capacity)	"	17.1	Decrease	3.3
Days in operation	"	1.9	"	0.6

There are very few industries, among the 76 embraced in this report, that make even a near approach to the rate of growth here indicated. Practically the only item showing a higher rate of growth is these of "Hose-Rubber, Linen, Etc." During the ten years there were only two—1888 and 1893—in which the rubber industry failed to show an increase in product over the preceding year.

The number of rubber establishments reporting for both 1894 and 1895 is larger, reaching 31, and the data supplied by these admits of the following comparison between conditions in the two years named, as follows:

	1894.	1895.
Number of establishments reporting	31	31
Amount of capital invested	$14,395,422	$10,977,866
Value of stock used	$11,510,979	$11,839,794
Goods made and work done	$19,656,647	$19,849,821
Persons employed, average	7,422	8,179
Total wages paid	$3,132,791	$3,529,610
Average yearly earnings	$422.10	$431.55
Proportion of business done	69 2%	70.1%
Days in operation, average	276½	284
Percentage of employés, males	59 3	56 5
Percentage of employés over 21	.....	80 3
Percentage of employés, piece-work	....	49 9

The term "capital" as used in these reports does not mean merely cash capital, or capital stock, but includes all forms of capital devoted to production. The decrease in the amount of capital which has been returned as devoted to production in 31 rubber establishments, therefore, does not indicate the absolute withdrawal of that amount of capital from the industry, but that the amount of goods in hand, or in process of manufacture, or the cash balance on hand, may have been larger in the latter than in the former year under comparison.

GOVERNMENT RUBBER SUPPLIES.

CONTRACTS have been awarded at the Philadelphia depot of the quartermaster's department of the United States army, as follows:

To Jesse St. John, New York, 5000 pairs arctic overshoes, at $2.12 per pair. The estimated number of each size that will be required is 1456 No. 7; 2357 No. 8; 538 No. 9; 444 No. 10; 205 No. 11. There were five bidders, the highest being at $2.45 per pair. Amount of contract, $10,600.

To the Manhattan Supply Co., New York, 4000 rubber ponchos, at $1.28 each. The size is 45×72 inches, weight to be not less than 31 nor more than 34 ounces. There were two higher bids: 1.34\frac{7}{10}$ and $1.52 each. Total amount, $5120.

Contracts have been made for supplying the bureau of printing and engraving, in the United States treasury department, with the following India-rubber goods during the coming fiscal year, the quantities being estimated: Four hundred yards rubber cloth, 45 inches wide; 400 yards 36 inches wide; 48 rubber blankets, 26×18 inches, 2-ply; 152 pounds rubber bands for truck-wheels; 40 pairs rubber boots.

The advertisement for supplies for the postoffice department and the postal service for the fiscal year 1897 98, included the following items of rubber goods:

125 gross rubber bands Nos. 0¼—000¼, in gross boxes.

4300 gross rubber bands, Nos. 11—31, in gross boxes.

9000 pounds rubber bands, Nos. 11—31 and 0¼—000¼, in ½ pound boxes.

250 pounds rubber bevel erasers.

150 dozen combined pencil and ink erasers, in wooden handles.

25 rubber stamping-pads, 8"×10" to 20"×30".

275 dozen Gutta-percha penholders.

550 dozen combined wood and rubber penholders.

80 dozen flat India-rubber rulers.

10,000 rubber stamps—dating, hand, and self-inking—of varying details, with pads, ink, etc.

* *The Annual Statistics of Manufactures* [of Massachusetts.] 1895. Tenth Report. Boston: Wright & Potter Printing Co. 1896. [Cloth. 8vo. 203 pp.]

RUBBER NEWS AND VIEWS FROM SELECTED SOURCES.

CHICAGO has become the greatest rubber-manufacturing center on earth. According to the *Evening Journal*, of that city, "rubber goods of every conceivable description are manufactured in Chicago in inestimable quantities." But that isn't all. Listen to this:

Raw material is received direct from South American forests in train loads and quickly made up into goods that find universal use. One Chicago rubber concern with a national reputation has branch houses in seventeen smaller cities, including New York.

The wonder of the age is to see the immense through freight trains plunging through to Chicago from the thousand and one railway stations along the Amazon, arriving at their destination at the rate of one every forty-five minutes, unloading fine Pará "biscuits" which are all turned into tires and baby-rattles and hose and pencil-erasers before nightfall. No wonder Ernest Terah Hooley has been trying to annex his little $25,000,000 Dunlop tire syndicate to anything Chicagoese that he can hitch on to. One thing in the *Evening Journal* as interesting as it is new is the statement that the leading rubber-manufacturers of Chicago maintain purchasing-agents in "all the rubber-raising countries in the world." Just now Pará rubber happens to be in the lead, because it "is obtained more cheaply than that of any other country, and is as good as can be obtained." But these enterprising manufacturers will stop at nothing "to secure better raw material, at cheaper prices, if such a thing should ever be possible," and there is reason to suspect that they are keeping a sharp eye on Florida.

* * *

THE able Toledo (Ohio) *Commercial* is away behind the times, else it would not talk like this: "So great has become the demand for all kinds of rubber goods that the supply of the raw material has failed, nor is there any immediate prospect of an increase from the sources from which it has heretofore been derived. All old rubber has been worked over time and again, until at last rubber goods have become of an inferior quality." All this would be dreadful, if it wasn't for Florida. That is the great rubber reservoir of the future, according to daily newspaper reports on every side. Half that state is covered now with rubber trees, and the Boston *Transcript* says that "many of these belong to the several species of *Hevea*, from which the best Pará rubber comes."

* * *

THE secrets of "the rubber trust," like murder, "will out," and it seems as though they would never get done outing. Now comes the Worcester (Mass.) *Telegram* with a choice bit of "rubber-trust" history which, it is to be regretted, comes too late to be of use to Senator Lexow, of New York, in his quest for damning facts about trusts. One paragraph, in particular, seems to possess the merit of originality to such an extent that it may be news even to Mr. Banigan. It runs:

Mr. Banigan and H. B. Hollins formed the United States Rubber Co. None know its inner history so well. None is so able to place a finger upon its weak spots. Mr. Banigan owned the patent on a machine for making rubber shoes; the trust used the patent, and his demand for royalties was treated with contempt by his fellow-directors. They thought he wanted too much and he brought suit against the company a year ago, while he was still its president. The matter was compromised, and rumor had it that a large block of stock was given to Banigan in addition to his other holdings. Subsequently he learned that his stock was being rendered valueless and he left the company.

"THE gigantic rubber trust" has been greatly "humbled" of late, according to the New York *World*, by Joseph Elberson, of Setauket, L. I., who "will go down in history." This "one man, alone and unaided, has given the great rubber trust a fight and has fairly beaten it." Immediately after this publication the prices of rubber stocks on the New York exchange reached the lowest point on record. No wonder Mr. Elberson, according to the *World*, "says he has no fears for the future." Doubtless he will possess the earth, while the "rubber trust" gets out of business as fast as it can. But no one else will know what it is all about.

This is not the only humiliation, by the way, that the big rubber company has been compelled to face. The New York *Journal*, in a leading editorial, asserts that the rubber "trust has accumulated $5,000,000 more than it has dared to divide." No doubt this gives the directors a pain, and it is a wonder that they can longer face their fellow-citizens, now that the *Journal* has made the truth known. Five millions of surplus more than they dare to divide! They are worse than firebugs. The Cleveland *Plain Dealer* may well say: "There is danger in the air."

* * *

SPEAKING of the *Plain Dealer*, it asserts that "everything made of rubber in the world, certainly in America, is controlled by the rubber trust, and the prices have been so enhanced that it affords many, many millions of profit to the trust." You see that the more prices go up, the more freely people buy, until the accumulation of profits alarms the rascally trust magnates, deprives the public of a circulating medium, and makes it impossible for the government to collect enough revenue. "Men stop," says the St. Louis *Post-Dispatch*, "and ask themselves where this will end." How would it do to amend the Federal constitution by providing that no incorporated rubber company shall charge profits higher than 365 per cent., except on sales to plutocrats?

* * *

THE London *Financial Times* is probably the highest authority on rubber, next to the Hon. Clarence Lexow. It is with deep concern, therefore, that we learn through its columns of "restrictive legislation" in Brazil, to save the native rubber trees, in consequence of which "a greatly decreased output has followed." Not unnaturally there has been a revolution "in that home of the Pará rubber tree. The government troops have twice been defeated, and it is feared that the insurrection may spread all over the rubber districts. It is not clear whether the legislation already alluded to is at the bottom of the revolutionary movement, but this is not unlikely, for great dissatisfaction is reported from many parts of the Amazon valley. It is to be hoped, for the sake of the thousands of investors in the rubber industry, that the rebellion will be promptly quelled. A fall of 50 per cent. in the exports of Brazilian rubber would send the price of Pará up to at least 7*s.* per pound." Since the arrival of the newspaper quoted here, a special despatch from Pará, obtained at great expense, reports that the insurgents in the rubber country, by way of a final rally, have picked up the Amazon river bodily and thrown it into the Atlantic ocean. If this should prove to be true, the output of Pará rubber will be stopped entirely, and we may expect African sorts to go up to $17.08 per pound. That is, if Major Kerbey does not get to work speedily in the Florida rubber forests.

RUBBER INVESTMENTS IN MEXICO.

A PRACTICAL rubber-man who has become interested lately in the development of Mexican rubber is Arlington U. Betts, of Toledo, Ohio, who has disposed of his manufacturing interests to devote himself to crude rubber. In a letter to THE INDIA RUBBER WORLD some time ago Mr. Betts wrote: "I am interested in the purchase of a very large tract of rubber forest and lands suitable for the cultivation of the rubber-tree. The trees in this territory have not as yet been tapped. Further than this I do not care to state at present. On my return from Mexico I will be very glad to give you a complete report in regard to this transaction. Suffice to say, however, the major portion of the capital invested in this enterprise is American." Local publications in regard to Mr. Betts's concession state its extent in figures varying from 10,000 to 173,000 acres.

* * *

FOR a year or more so many inquiries have come to THE INDIA RUBBER WORLD from the western United States in regard to the advisability of investing in rubber-culture as to suggest a widespread interest in the subject in that section. A little investigation shows that a large amount of western capital has been invested in Mexican and Central American coffee-lands, and in many instances with good promise of profits. Incidentally, many of the investers hope to do something also in India-rubber, and in the prospectuses of the companies offering coffee-lands for sale the possibility is held out generally of making money by planting rubber-trees. A few companies about which THE INDIA-RUBBER WORLD has inquired are noted below.

The cultivation of India-rubber, coffee, and pineapples together is proposed by the Mexican Gulf Agricultural Co. (Kansas City, Mo.), incorporated under the laws of Missouri with $100,000 capital. Organized originally to start a coffee plantation in the isthmus of Tehuantepec, their plans have been extended until they now include an offer of 100-acre tracts, one-half planted in coffee and pineapples, and 4000 rubber-trees. The idea is to attract additional capital and increase the number of persons interested in tropical cultivation. They claim to have several thousand rubber-trees on their lands already, and more will be planted. After eight years it is promised that the rubber-trees will yield yearly $1 each. The desirability of planting coffee and India-rubber together was pointed out in THE INDIA RUBBER WORLD a few years ago by J. O. Harriman, of Jaltipan, Mexico. The Kansas City company urge the additional reason that it is best not to depend upon a single product—there might be a failure now and then. The company, by the way, appear to be composed of citizens of high standing, some of whom privately own coffee-plantations in Mexico. The secretary is Robert E. Shryock, New England building, Kansas City.

The organization was reported lately in Chicago of the Dos Rios Planters' Association, with $500,000 capital, by parties interested in the growing of coffee and India-rubber on the isthmus of Tehuantepec. A letter to the president, Edwin R. Thurman, a Chicago lawyer, brought the information that the company were jointly interested in certain lands with the Mexican Gulf Agricultural Co., above mentioned, but that they had no information to give at present with regard to rubber. These lands are near the National Tehuantepec railway and on the Coatzacoalcos river.

There was incorporated under the laws of Colorado in May the Murray Land and Coffee Co., with $100,000 capital, to acquire lands for cultivating coffee, India-rubber, and cacao in Mexico. A letter addressed to one of the incorporators, at Pueblo, Col., was answered by the president of the company, F. O. Popenoe, writing from Topeka, Kas., where he is president of a trust company. He writes: "So far we are developing only in the coffee and cacao line, and have no plan for immediate rubber development."

* * *

A DESPATCH appeared in the New York *Sun* of July 12, dated from Oaxaca, Mexico, saying: "The India Rubber Company of Mexico, an English corporation with a paid up capital of $2,000,000, is going into the rubber industry in Mexico on an extensive scale. This company is now planting 5,000 000 rubber trees on their lands in the district of Pochutla, this state. They have 400 men at work on the land now." This refers to the India-Rubber (Mexico), Limited, of which an extensive notice was published in THE INDIA RUBBER WORLD of June 10. While their plans do involve the ultimate planting of rubber-trees in addition to those standing on the lands which they have bought, not a penny is to be spent until the formal transfer of title takes place, and this may take some months yet. At a recent meeting of the shareholders in London it was stated that the funds required were subscribed and in bank, including $250,000 working capital, but that the transfer of the property would be awaited before any other step could be taken.

CONDITIONS OF LIFE IN PARA.

THE United States consul at Pará, Mr. George G. Mathews, wrote in a recent report: No Americans coming to Pará without the means to maintain themselves while acquiring the language and seeking employment can have much chance of success. A knowledge of the Portuguese language is absolutely necessary to enable one to find employment. Pará, like all commercial centers, has more applicants than positions. Salaries are small and living the most expensive in the world. Nearly everything consumed here is imported and pays a very high import duty. Salaries paid to clerks are from $15 to $45 per month. The uncertain and ever-changing value of the money has a very injurious effect upon trade. None suffer more from it than they who work for wages, for while the cost of living is made dearer by the financial condition of the country, salaries undergo little or no change as the money fluctuates in value. As to outdoor labor, no white American who exposes himself, as he would be compelled to do, to the sun's burning rays and daily rains that fall here during the wet season, could hope to escape the yellow fever and perhaps death.

It is true, money is plentiful and the exportation of natural products guarantees a permanent prosperity to this part of Brazil; but no one can successfully deal in rubber unless he has a large capital. The competition among the rubber buyers is very great, and on that account the business is surrounded with greater difficulties now than formerly. In the rubber field, men without money can play no part, unless they become rubber-gatherers, in which case they would have ten chances for death against one for life. On some of the rivers, 50 per cent. of the natives die who go there.

The value of the milreis is the lowest in the history of Brazil, as it now requires over 6½ milreis to buy $1 (United States), which, in the middle of the coffee and rubber season, is an unlooked-for condition. None of the brokers have been able to assign a reason for the present rate of exchange. No one seems to be able or willing to forecast the future. The uncertainty and the fluctuating value of money prevent merchants from buying more than is absolutely necessary.

AMERICAN-MADE GOLF-BALLS.

IN theory a golf-ball should be made of pure Gutta-percha, but in fact India-rubber and other adulterants are used that will reduce the cost of production without impairing the elasticity and hardness. The balls will stand but a minor degree of adulteration, which, with the difficulty in obtaining a uniform grade of pure Gutta-percha, keeps the cost of production heavy. After all, it is the work on the links that tells whether a golf-ball is any good, and until it receives this test the manufacturers have no means of telling how their grade will go with the players. Without the best gum no maker can keep his output at a steady standard of excellence, but no matter what price is paid for the raw Gutta-percha, there is always a doubt as to the quality to be turned out. This sudden variation in quality accounts for the rapid changes in the fashion of golf balls. Each season sees a different brand most in vogue.

This season balls made in this country are to be put on the market by several makers. It is claimed that the home-made balls will fly as far and be as tough as any imported. All golfers know that an old ball is the best, for the freshly made ones are dented too easily under the strokes of the clubs. The makers in this country know this and they all announce that only thoroughly-seasoned balls will be sent out. Each firm preserves the secret of its process, but the home-made balls in material and construction will probably be a close imitation of the best imported. There is a good deal of luck about the lasting qualities of a ball. One day a player will not split the paint and the very next time out he may bang the ball into a shapeless mass with the niblick before the second hole is made. But, barring accidents, a golf-ball thould remain almost as good as new for thirty-six holes at least.

The imported balls range from $3.50 to $5.50 a dozen. It is safe to put $4 as the average cost. The same makes of balls are advertised in the papers abroad at 10*s.* to 11*s.* by the single dozen, with reductions by the box. It is claimed that the balls sent to this country have to be made of a specially fine grade of gum to withstand the heat, and that, when the duty is added, there is only a small margin of profit to the importers. The cost of the balls is the heaviest expense about the game to the beginners, for they cut them badly by topped strokes, besides losing many from widely directed plays. On this account many begin with made over balls, which are also used by good players when at practice. The re-made balls may be bought from the greenskeepers for $2 or $2.50 a dozen, and at half these figures when a dozen of damaged balls are given in part payment. The old balls are softened in hot water, pressed anew in molds and, while hardening, treated to a triple coating of white paint. If the work is well done they look as good as new balls, and if well seasoned they give excellent service. Some of the greenskeepers are very expert at re-making golf-balls, while others never seem to do the work just right. The re-made balls sell at from 6*s.* to 8*s.* per dozen in Scotland and England, but when the old balls are furnished the makers advertise to re-mold them at 4*s.*—*New York Sun.*

AN ENGLISH TIRE-MAKING MACHINE.

AN account is given in the *Irish Wheelman* (Dublin) of Brainard's patent tire-making machine, which our contemporary regards as opening the way to a great development of the bicycle-tire trade. The *Wheelman* says: "The machine makes over 3000 tires per day of the highest quality—it does, in a word, the work of about 150 qualified men. The tires it now makes are known as the single-tube tire, though why called single tube, when it is really two rubber tubes with two layers of canvas between made into one compound tube, we cannot understand. The machine, which is a marvel of ingenuity and yet of simplicity, is equally adapted to make hose-pipes and all kinds of flexible tubes, and all at such remunerative prices as leaves little ground for fear that the future will be a happy one for those who are fortunate enough to become shareholders in the company about to be formed for working the patent in this country."

TO DEVELOP TRADE IN VENEZUELA.

A SAMPLE warehouse for American goods has been established in Caracas, Venezuela, under the direction of the National Association of Manufacturers of the United States. The scale of charges for the use of space in this warehouse by manufacturers and exporters has been fixed at the lowest figure that will permit the institution to be self-sustaining. It is generally admitted that none of the Latin-American countries offers a better opening for American trade than Venezuela, while Caracas has a cultivated and wealthy population. It might interest many persons in the India-rubber trade to have a copy of the pamphlet describing the new warehouse and its objects and scale of charges. It can be obtained gratis from Theodore C. Search, president of the association named above, at No. 75 North Fourth street, Philadelphia, together with other points on export trade.

AMERICAN INSTITUTE FAIR.

THE annual fair of the American Institute will be held at Madison Square Garden, New York, from September 20 to November 4. A special feature will be a comparative exhibit of old and new methods for local and long-distance transportation of freight and passengers. In the early days of the India-rubber and Gutta-percha industries, the American Institute fairs performed a useful service in acquainting the public with the merits of their products, and several Institute gold and silver medals were conferred upon and highly prized by the pioneer rubber-manufacturers. No doubt the fair at Madison Square Garden will afford a valuable opportunity for the exhibition of novelties in rubber, no less than the fairs held a half-century ago.

COATING EGGS WITH RUBBER.

MANIFOLD as have been the uses to which India-rubber has been applied in practical life, experiments are made daily to create still further uses for it. A noticeable step in this direction was made recently in Copenhagen. It is well known that, in spite of all experiments made hitherto, the preservation of eggs has not been entirely successful, as they will spoil eventually, or, if they are treated with lime, an alkaline taste is imparted to them. The object in all cases has been to preclude the air from reaching the interior of the egg. No objection therefore could be found to the application of rubber. A Danish inventor dipped the eggs in a solution of rubber and benzine or naphtha, removing them instantly from the bath. The solvent evaporates rapidly, and the egg receives a thin rubber coating which insulates it completely from the air and does not impair its flavor in the least. Already in Copenhagen, Paris, and London, eggs, treated in this manner, are marketed to a large extent.—*Die Gummi-Zeitung* (*Dresden*).

BRIEF ABSTRACTS OF RECENT RUBBER PATENTS.

IN chronicling the appropriate patents embraced in the issue from the United States patent office for the month now in review, the aim has been to set forth the nature of the various inventions embodying India-rubber or Gutta-percha to an extent sufficient to form the basis of a judgment as to whether or not a particular patent should be more carefully looked into.

TIRES.

No. 583,681.—Tire. Thaddeus Galvin, Detroit, Mich.

What is ordinarily the tread of a single-tube tire is extended inwardly to nearly the opposite face, forming a U-shaped depression, into which fits a rib or flange bearing against the bight of the depression and formed with a shoe or tread closing the mouth of the U-shaped section.

No. 583,743.—Bicycle-Tire. Franz A. Hamp, Terre Haute, Ind.

A cork body made up of a series of cylindrical contacting cork sections held together by a wire tie-band, is enclosed in a cover-tube, the twisted ends of the tie band being secured by a set screw passing through a sleeve located at the meeting edges of the cover-tube,

No. 583,865.—Tire-Attaching Device for Vehicle-Wheels. Robert Cowen, Cambridge, Mass., assignor to the Boston Woven Hose and Rubber Co., Boston, Mass.

Tire attaching devices on the inner face of a yielding tire are so combined with laterally extending shortening portions upon the rim, that pressure against the tire will cause a shortening of the attaching devices and thereby a firm grip on the rim.

No 583,891.—Wheel for Cycles. David Collins and William H. Wallis, Southampton, England.

The structure here covered consists of a trough-shaped wheel-rim with edges inwardly extended to form hooks with which latter may be engaged helical springs at the edges of an outer tire by the inflation of an inner tube, the outer tire having shoulders which rest upon the hooks when inner tube is deflated.

No. 584,059.—Pneumatic Tire. William B. Mann, Baltimore, Md.

A solid thickened annulus protruding from the inner side of the tire is formed in part by flattening the circular cross section of the inner tire chamber, shoulders on the annulus engaging the under cut edges of the channeled wheel rim, and elastic protuberances upon the annulus entering shallow sockets at the bottom of the channel.

No. 584,066.—Pneumatic Tire for Bicycles. Lee H. Stodder, Chicago, Ill.

The tire is made up of one or more layers of fabric treated with a mixture of alcohol, resin and borax, and one or more layers of rubber.

No. 584,'08.—Wheel-Tire. William Corliss, Providence, R. I.

Essentially a metallic spring construction, in which the ends of a series of independent metallic springs are inserted in a groove on the inner portion of the wheel rim and bent over and secured in an opposite groove, almost completely enveloping the rim and enclosing a cross sectional area greater than the cross sectional area of the rim, a flexible envelope encircling the springs.

No. 584,115.—Pneumatic Tire. Thomas B. Jeffery, Chicago, Ill.

A double tube tire consisting of the ordinary inner tube but with the outer tube divided or having two telescoping ends which may be secured together by an interlocking construction, comprising a bead upon one end made circumferentially extensible, inserted in the other end made circumferentially non-extensible where it may be held by inflation.

No. 584,163.—Manufacture of Pneumatic Tires. James F. Lawrence, Chicago, Ill., assignor to the Morgan & Wright, same place.

A device for use in the cementation of inner tubes to the inner walls of pneumatic-tire casings, comprising an annular support for the tire-casing through an opening or gap in which, a slit or opening in the base of the tire-casing can be exposed and expanded by a spreader, while portions of the inner tube are grasped by a tube holder and thereby the inner-tube held in a taut condition against the inner wall of the casing.

No 584,164.—Means for Making Pneumatic Tires. James F. Lawrence, Chicago, Ill., assignor to the Morgan & Wright, same place.

A device for a similar purpose as the foregoing, but with holders for the inner tube ends in the form of spring clips.

No. 584,193.—Pneumatic Tire. John C. Raymond, New York, N Y

The structure is a sectional one, in which a series of circumferential interlocking pneumatic sections are held in a flexable casing open along its inner diameter and secured to a rim giving access to the sections.

No. 584,218.—Motor-Wheel Device. Charles F. Goddard, Chicago, Ill., assignor of one half to Seth A. Minard, same place, and William S. Stuckenberg, Cincinnati, Ohio.

The inventor claims a wheel provided with a series of independent, flexible, peripheral sections, from which air may be exhausted, and into which air may be forced, successively during rotation.

No. 584,289.—Pneumatic Tire. Fred W. Morgan, Chicago, Ill., assignor to the Morgan & Wright, same place.

Covers a method of forming pneumatic tires, in which the several steps set forth include the connecting together of the ends of a thin rubber tube upon a separable annular mandrel, and forming and cementing thereupon an endless seamless covering of rubber and fibrous material, followed by the withdrawal of the mandrel through an opening which is then hermetically closed.

No. 584,295.—Device for Repairing Pneumatic Tires. John Schade, Brooklyn, N. Y., assignor of one-half to Henry Schade, same place.

A repair plug the pointed stem of which is adapted to be inserted in the puncture and which may be reversed inside the tire by means of two pulling strings extending transversely through the stem, a head or flange portion on the stem having a central depression forming a bearing for a tool in seating the plug.

No. 584,379.—Pneumatic Tires for Bicycles. Ferdinand von Leicht and Herman F. Lange, San Francisco, Cal.

An outer elastic tube is completely filled with saw-dust save, for the space occupied by an inner inflatable tube secured along a line diametrically opposite the tire tread portion.

No. 584,498.—Pneumatic Tire. Samuel F. Ettinger, Little Rock, Ark., assignor of one-half to Kate Fleming, same place.

An outer case envelopes a circumferential series of inflated balls seated in depressions in cushion material on the rim, armor sections with shanks extending between the balls, covering the tread surfaces of the latter.

No. 584,690.—Fabric for Bicycle Tires. Peter Krumscheid, Boston, Mass.

The invention here set forth is designed to secure the greatest longitudinal elasticity at the center and the greatest lateral elasticity at the edges, attaining these results by imbedding in the sides of the fabric, thread curved to form U shaped lines which cross each other, the bow part being at the middle and the threads crossing at an obtuse angle at the edges and at an acute angle at the center.

No. 584,935.—Cushion-Tire. Rebecca H. Hayes, Galveston, Tex.

Elastic balls whose resiliency is augmented by helical springs, are located in the tire casing and held together by a tape.

No. 585,078.—Puncture-Closer for Pneumatic Tires. William B. Bell, Danbury, Conn., assignor of one-half to Susan F. Wildman, same place.

Two plates with laterally-extended edges are drawn together

and clamped to the slit portion by a conical nut screwing on to the threaded shank extending from the inner plate through the puncture, the conical face of the nut forcing the edges adjacent to the puncture into the space between the plates.

No. 585,181.—Wheel-Tire and Fabric Therefor. Gardner C. Bullard, Brookline, Mass.

The warp and weft threads are interwoven at the middle tire portion, crossed but uninterwoven at the adjacent side portions and interwoven at the marginal portions.

No. 585,205.—Tire. Frederick A. Hodgman, Yonkers, N. Y.

Directed to the means for securing together the ends of a core inclosed within the tire body, and consisting in engaging teeth formed on the overlapping ends of the core.

No. 585,418.—Pneumatic Tire. Charles F. R. A. H. Bagot, London, Eng.

An armor consisting of overlapping plates so arranged that at the tread portion two thicknesses will be presented.

No. 585,466.—Tire for Bicycles. Rudolph Faas and William Mechwart, Chicago, Ill., assignors to the No-Puncture Tire Co., same place.

In the structure here set forth the space between an outer rubber covering and an inner tube of wooden strips separated by felt cushions, is provided with a felt cushion.

No. 585,562.—Inflatable Wheel-Tire. Henry A. Fleuss, London, Eng., assignor by direct and mesne assignments to Randal Morgan, Philadelphia, Pa.

On its inner circumference, the single-tube tire is divided by a radial opening, projections on the tire fitting into and being securely held by the edges of the wheel rim, and a stretched elastic band inside the tire covering the division-opening and extending on one side beyond the point where the edge of the rim engages the tire.

No. 585,615.—Pneumatic Tire. Charles F. R. A. H. Bagot, London, Eng.

Directed to the configuration of the tread portion, and the varying of the hardness of the same.

MECHANICAL GOODS.

No. 583,454.—Hose-Clamp. George D. Burns, Minneapolis, Minn.

A split ring formed with lugs which may be drawn together and the hose clamped by a key with T-heads seated in notches in the lugs.

No. 583,969.—Hose-Nozzle. Joseph Askins, Ridgefield, N. J., assignor to William M. Fredenburg and Armittie E. Askins, same place.

Deflector jaws are pivoted to a stationary part upon a hose body and may be moved upon their pivots toward or away from each other by laterally-projecting cam ribs upon a rotative sleeve.

No. 584,008.—Hose-Splice. Charle F. Munson, Los Angeles, Cal., assignor of two-thirds to Juana Achey Neal and John Wolfskill, same place.

The hose ends are joined by a tubular piece of absorbent and expansible wood, within the bore of which is inserted a metallic lining with ends turned over the ends of the wooden piece.

No. 584,197.—Nozzle. Charles A. Snider, Columbus, Ga.

From the nozzle-body projects a discharge-pipe, about whose spherical end may be rotated a corresponding cap provided with a series of graduated openings which may be brought at will to severally register with the mouth of the pipe, a rotary ring eccentrically mounted on the nozzle-body, being adapted to open or close an annular opening at the base of the discharge-pipe.

No. 584,804.—Support for Lawn Sprinklers. Henry D. Winton, Wellesley, Mass., assignor to the Hersey Manufacturing Co., Boston, Mass.

Runners pivoted to a plate to which is secured an elbow provided with couplings, are adapted to be swung out laterally or to fold together.

No. 585,014.—Hose Coupling. Frederick A. Wenzel and Edward A. Stratton, Danbury, Conn.

A pipe with tapering ends and reduced center is fitted with elastic rings which enter the hose ends.

BOOTS AND SHOES.

No. 583,528.—Rubber Boot or Shoe. Ferdinand Ephraim, San Francisco, Cal.

Covers a boot or shoe made up of an outer molded rubber portion, and an elastic seamless sock-lining, embedded in the inner face of the rubber and constituting a lining for the entire boot or shoe.

No. 583,641.—Rubber Sole for Boots or Shoes. John W. Brown, Trenton, N. J., assignor to himself, and William G. Grieb and Harry Grieb, Philadelphia, Pa.

Relates to the construction and formation of the bottom of the sole, in which transverse V-formed corrugations terminate in V-shaped ends upon the inward beveled V-shaped walls of a raised surface part around the edge of the sole, the bottom grooves of the corrugations being joined by the inward beveled walls, whereby the breaking and disintegrating of the sole along the joining of the corrugations with the raised part is prevented.

No. 583,814.—Heel for Boots or Shoes. Charles K. Pevey, Worcester, Mass.

The heel is composed of an upper and lower layer of soft rubber, and an intermediate layer of vulcanite, permanently united to the soft rubber layers and provided with a series of brads or nails which extend upwardly through the upper soft rubber layer.

No. 584,373.—Sporting Shoe. Edward Kuhn, Chicago, Ill.

Covers strips of leather, rubber or any other suitable material, bent over and fastened across the sole by sewing, tacking or other means along or near the center-line of the bent strip, with a view of rendering the sole stronger, thicker and more durable.

MISCELLANEOUS.

No. 583,481.—Coin-Mat. Walter B. Johnson, Fredericktown, Ohio.

Consists of a plate having a raised edge, and portions raised in the form of hollow spherical segments arranged alternately in close order.

No. 583,497.—Pneumatic Handle for Handle-Bars of Bicycles. Frederick H. Merry, Brooklyn, N. Y., assignor of one-fifth to Harley Merry, same place.

The handle consists of a central longitudinal tube of rubber or the like into which the end of the handle bar extends and whose ends are fitted with similar heads, while to an outer conical flange upon each head there is secured a tubular rubber casing provided with a valve and a superimposed covering connected to the heads.

No. 583,564.—Fastening Device for Shoes. William H. Benford, Lamar, Mo., assignor of one-half to William L. Griffin, same place.

A device designed to connect yieldingly the sides of a lace-shoe, consisting of a transversely-disposed endless elastic band and a pair of hooks carried by the band and adapted to pass through the ordinary eyelets of the shoe, each hook being constructed of a single piece of wire doubled to form a loop to receive the endless band, while the free ends are bent in such a manner as to securely hold the hooks when put in place.

No. 583,781.—Bicycle-Handle. Allan J. Barber, Woonsocket, R. I.

The inventor forms a grip from a flexible elastic strip of material wound helically into cylindrical form, which may be slipped to a desired portion of the handle bar where it may be contracted by twisting it torsionally and secured by clamping means.

No. 584,004.—Artificial Foot and Ankle. James S. Lyon, Chicago, Ill.

Upon a ledge formed just above the plane of the sole-line of a hollow air-filled rubber foot whose contour includes raised instep and heel portion, rests an upper shell conforming to the shape of the foot above the ledge and jointed at the ankle.

No. 584,117.—Water-Bag Nozzle. John Lines, Waterbury, Conn., assignor to The Scovill Manufacturing Co., same place.

A sheet metal nozzle-body, open at its inner end, has its closed outer end formed with an integral overhanging flange, and set into and secured in it a tubular nipple, wing-like finger pieces formed integral with a central band closely encircling the inner portion of the nipple and being rigidly connected with one or both of the other nozzle members.

NEW GOODS AND SPECIALTIES.

A TIRE COVER.

THE Hub Cycle and Supply Co. of Boston, Mass., has a novelty which is meeting with a ready sale, owing to the practical use to which it can be placed. It is the "Perfection" tire cover, designed to be used over worn or punctured bicycle tires, giving a new and durable riding surface. In tires that have plugs which give trouble by being forced in, for riding in rocky and sandy regions, and for long distance work, they are particularly recommended by the makers. The weight is less than one pound per pair.

"ANTI-COLIC" NIPPLE.

THE "Anti-Colic" Nipple, is so designed as to prevent collapse, while at the same time it does not present irregularities on the inner surface in which milk and food might collect. The non-collapsible feature is obtained by the peculiar formation of the nipple, in so distributing the rubber that when released from pressure it immediately assumes its normal shape. This nipple is manufactured for Meincke & Co., of 255 Greenwich street, New York, by the Davol Rubber Co., Providence, R. I. The latter company have the sole right to manufacture all rights including the trade-mark, the patent on the nipple, and the box or package in which they are put up having been transferred to them. The "Anti-Colic" nipple, therefore, is controlled by the Davol Rubber Co., who will protect themselves against all infringements.

PERRY'S CYCLERS' PIPE.

OUR illustration shows a form of pipe designed especially for the use of bicycle riders. The cut gives a very fair idea of the idea, the pipe bowl being attached to a shield which can be placed in any position on either side of the coat, to which it is fastened by a safety pin; or, when the user may be lying down it can be placed so that the bowl will be upright. The stem is of flexible rubber tubing, braided in colors, and fitted with a suitable mouthpiece. The advantage claimed is that such a pipe will not throw smoke and sparks into the face of the user when riding. Manufactured by Rowland & Christ, 1303 Buttonwood street, Philadelphia, Pa.

THE "BALL BEARING" SADDLE.

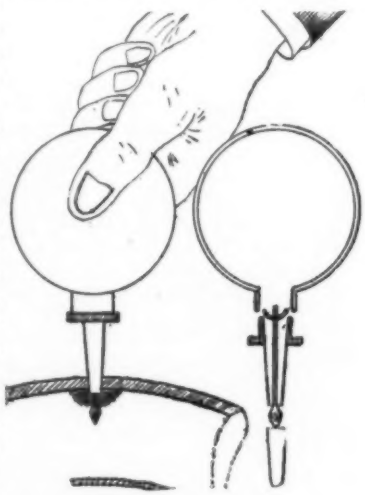
THE M. & M. Pneumatic Saddle Co., 1551 Michigan avenue, Chicago, has placed on the market a new type of pneumatic bicycle saddle, known as the "Ball Bearing." This saddle is made on a steel plate which acts as the foundation of the seat. On this is laid a covering of wool-felt one inch thick. Where the pelvis bones strike the saddle are two pneumatic balls, from which the name of the saddle is derived. These balls are inserted through the under side of the saddle, through the steel base, and can be removed when deflated without disturbing the saddle. The balls or cushions are 2½ inches in diameter by ½ inch in depth, and after being inserted in the aperture in the steel and felt can be pumped up as hard as may be desired. Should a puncture occur the rider may either repair the leak himself, or ride without the air cushions.

RUBBER CUSHION HEAD REST.

THE accompanying illustration shows a device intended to remove another of the discomforts of travel by rail, and its use on the seats of a day coach for railroad travel, or in a parlor or lawn, for an easy pillow or head rest. It is light, soft, neat, comfortable, easily inflated and deflated, and packs into a very small space. The portion extending from the pillow forms a soft cushion for the back and holds the pillow in position. They are a genuine comfort to invalids and others in want of rest. These cushions are not easily soiled, and are a most delightful pillow in summer, as they are cool and cleanly. Manufactured by the Pneumatic Rowboat Co., New York.

THE "QUICK SURE" REPAIR TOOL.

WE illustrate herewith a device for repairing single tube tires, invented and patented by Frank H. Mayer, of Denver, Colo. It consists of only four parts and its operation and construction will be easily understood by referring to the cut. In use the needle is simply pushed up into the puncture, a slight pressure exerted on the flexible sides of the receptacle by the thumb and forefinger, and the operation completed by drawing the tool. The air pressure causes a certain amount of cement to be discharged in the shape of an annular ring about the puncture on the inside of the tire, the amount of which discharge is regulated by the adjustable stop disc on the end of the needle, as shown, the disc being forced by the air pressure against the end of the discharge tube simultaneous with the discharge. The bulb on the needle drags enough of the cement down into the puncture when the tool is withdrawn to effectually seal the same. This device is not likely to clog or gum up, being provided with an air-tight cap on the tube when not in use, but it can be easily and quickly cleaned if it does clog.

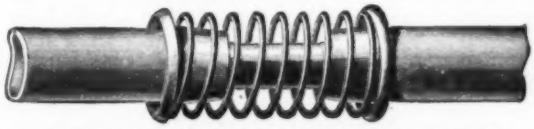


A PUNCTURE-PROOF TIRE.

THOUSANDS of puncture-proof tires have been patented, all with a strong family likeness, but the news comes from England that a new tire, on an entirely fresh principle—that is, not dependent on metallic substances or any foreign agency for making the tire puncture proof—has recently been developed by Messrs. Thwaite & Denny (29 Great George street, Westminster). It is claimed that without the slightest loss of resiliency it is made so puncture-proof that pierced up to 1¼ inches leaves no impression. Until all the foreign patents are issued, THE INDIA RUBBER WORLD is asked not to describe the principle of the tire, but it is understood the inventors would have no objection to showing their invention to responsible firms.

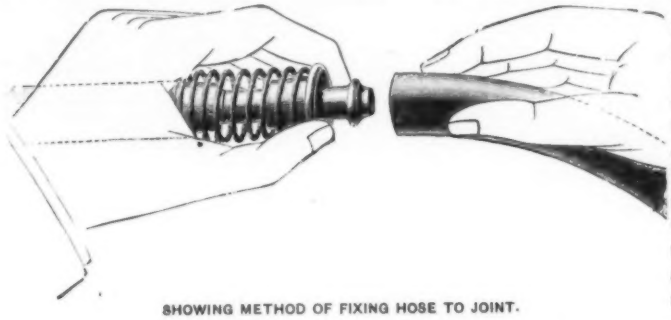
A NEW ENGLISH HOSE-SPRING.

SOME new hose-fittings have been put upon the market recently by the British Engineering Co. (Edmund street, Birmingham, England). The essential feature is a strong spiral spring bedded in flanged caps or sleeves. This cap or sleeve is



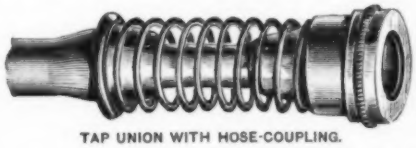
INSTANTANEOUS HOSE-COUPLING JOINING TWO HOSE LENGTHS.

normally pressed firmly against the slightly enlarged end or bulbous tail of a short piece of brass tube inside the coil spring. The cap also slides upon the brass tube, and the operator simply presses it back against the tension of the spring, and forces



SHOWING METHOD OF FIXING HOSE TO JOINT.

the open end of the hose over the enlarged mouth of the brass connection, and then the coned shaped cap is released and instantly shoots home, locking the hose in the joint. No great strength is required for the fixing, and the same form of joint is employed for every connection. It may be added that Messrs. Reddaway & Co. (Manchester), probably the largest makers of rubber hose in England, have used it, and tested it up to 80 pounds per square inch.



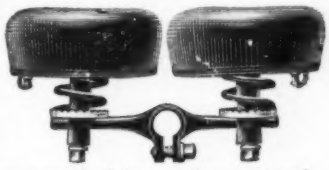
TAP UNION WITH HOSE-COUPLING.

KIMBALL PNEUMATIC HANDLE-BAR.

THIS is a departure in the attempt to make a soft grip for the hand in that the handle bar as well as the grips are filled with air under pressure. The manufacturers, Weston-Hall Co., 70West Jackson street, Chicago, claim that this feature of filling the bar as well as the grips is what makes this bar essentially practical above all others; that in this device the grips conform to the hand, and not the hand to the grips, thus preventing blisters, cramps and soreness. In the handle-bar and grips combined there is a cushion of 27 inches of air, thus absorbing all vibration, and effectually preventing the numbness due to it.

A BRITISH NOVELTY IN BICYCLE-SEATS.

THE Burgess Patent Pneumatic Cycle Seat Co. (19 Preston road, Brighton, England) have brought out a new bicycle-seat, which is claimed to be the best yet designed so as to be capable of lateral adjustment, and to secure absence of all pressure upon the *perineum* and the *urethra*, with consequent freedom of the blood circulation in these parts. It consists of two absolutely distinct cushions of about five inches in diameter.



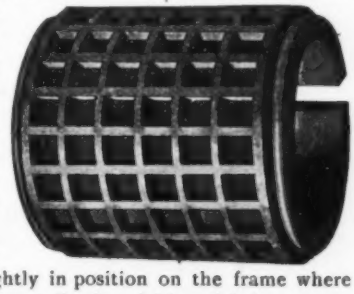
These cushions are screwed on a vertical bar, and are not only capable of a tilting adjustment but the distance between the cushions can be altered to suit the comfort of the rider. Each half of the seat consists of a ring air cushion resting in a light steel cup, provided with a separate spiral spring, and fitted with valves and other necessary accessories.

THE DOWNES SEAT.

THE Downes Bicycle Seat Co., 410-411 Lippincott building, Philadelphia, Pa., has a new thing in a seat of the same name which the firm is marketing. The Downes seat is of the "anatomical" pattern and is designed specially to relieve the discomfort and even permanent injury that may accrue from using saddles not properly made as a support for the pelvic bones. Each seat rests upon a separate wire coil showing three circles, of which the inner one carries the heaviest load. As the construction wire leaves this center rigid coil to form the other coils, it is slightly, but increasingly, resilient to vertical pressure up to and beyond the front of the outer coil, which point should slightly conform to the movement consequentupon peddling. The pneumatic cushion is contained in a metal cup with a flange fitting the inner rigid coil, so that each seat is upholstered by an oblong hollow rubber ball, affording the proper degree of elasticity. Over the rubber ball is a cover of thick woolen felt and fine leather, affording a seat area of 4½ inches diameter for each seat.

"PERFECT" FRAME PROTECTOR.

A DEVICE intended to protect the frame of a bicycle from defacement by the handle-bar striking against it is being marketed by A. L. Dean & Co., Sixteenth and Glenarm streets, Denver, Colo. The general shape is shown in the engraving here presented. A steel spring which is embedded in a covering of rubber clamps the protector tightly in position on the frame where the bar will strike it. The retail price of this article is 20 cents.



INNER-TUBE JOINER.

WE illustrate a new inner tube joiner made and sold by J. Coy Roach, Girard, Ill. To aid to a better understanding of the device it may be well to briefly describe the process of joining an inner tube with it: Pull one end of the rubber tube

through the brass tube, leaving just enough projecting at the other end as you wish the length of the patch to be, *i. e.*, one inch or more. Then take the other end of the rubber tube and pull it through the other brass tube, but have the end project twice as long as the first one, *i. e*, about two inches or more, and turn it over the brass tube the same as the first end. Then turn this long end back on itself. It is now ready for the cement. Put on from two to four coats of cement, according to quality, allowing each to set until tacky, then place brass tubes, with the two ends on, together, and lap one over the other carefully and keep there until dry. Then pull off, and the entire tube is easily gotten from the brass tube through the slots in the brass tube. The price of this device is 40 cents plain, or 50 cents nickeled.

VENN'S PATENT SHOE-MARKER.

THE article illustrated herewith, though patented several years ago, has never before been described and illustrated in any periodical publication. Meanwhile it has been thoroughly tested in several rubber-shoe factories. It has been in constant use in the factories of the Boston Rubber Shoe Co. This shoe-marker is the invention of Frank Venn, whose two styles of carton-markers were illustrated in this department of THE INDIA RUBBER WORLD for May 10. Strength and lightness have been combined in the construction of the machine by the use of brass and aluminum. The total weight does not exceed twenty-three ounces. The shoe-marker, like the carton-marker and the lining-and inner-sole-marker already described, is provided with figures from all sizes and widths needed in either rubber-shoe or leather-shoe factories. The address of Mr. Venn is Box 1627, Malden, Mass. By the way, in the previous notice of the carton-worker, an error occurred with regard to its capacity, there stated at thirty pairs per minute, and Mr. Venn writes: "These figures relate to the *shoe-marker*. Any one with a little practice can mark eighty cartons per minute. A machine that could work but *thirty cartons* per minute would not be worth 10 cents."

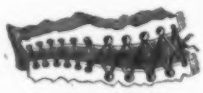
AN INTERCHANGEABLE STAIR-TREAD.

AN interchangeable rubber stair-tread has been introduced on the English market by W. Gooding, of North road, Holloway, London, N. These treads consist of an iron keeper pierced with a number of square-shaped holes through which blocks of rubber are placed, these blocks forming the wearing surface. It is of course well known that the majority of people pass up a staircase in the center, and the center-treads become worn before those at the ends. When the rubbers in the center are worn down to the level of the keeper, they can be moved to the ends, and those at the ends, which are not so much worn, brought into the center, thus avoiding the expense of new blocks for some time, and an unpleasant feature of the invention to the rubber trade.

INTERCHANGEABLE STAIR-TREAD.

FLEXIBLE SHOE LACES.

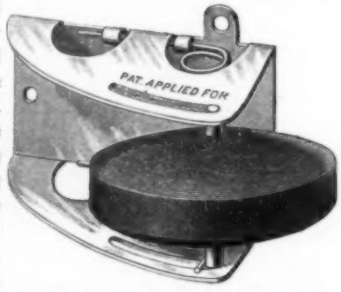
A RECENT improvement in shoe laces which bids fair to become deservedly popular has interwoven threads of rubber with the linen thread, which makes the lace elastic, and the shoe with such a lace is easier on the foot than a congress, with the advantage of not being "sloppy" when the elastic gives out, for a new pair of laces can, of course, be replaced in a minute. These elastic laces are particularly adapted to men's shoes, as in connection with lacing hooks the lace is tied with a hard knot and the shoe is simply and easily unlaced by slipping off the top hooks. The Flexible Lace Co., of 11 Columbia street, Boston, control the sale of these laces.


Showing Flexibility.


Showing Shoe Closely Laced.

"NEW IDEA" SCREEN-DOOR CHECK.

THE Screen-Door Check Co., Columbia building, Lousiville, Ky., are placing on the market the "New Idea" screen door check, as shown herewith. It consists of a brass frame supporting a rubber disk, held in position by two highly tempered steel springs, and is designed to prevent the slamming of screen doors. It can be attached to the door or casing. As the door closes it strikes the rubber disc, causing it to revolve on its axis, and move back in the slots, permitting the door to close. Once the door is closed the "New Idea" keeps it from opening of itself, thus performing the function of a fastening as well as of a door check.



PNEUMATIC-TIRED BABY-CARRIAGES.

ONE of the good things that the bicycle has done is to suggest the use of pneumatic tires on baby-carriages. For several years manufacturers have been using solid rubber tires on perambulators with great success, but even these did not save infanthood from being bumped and shaken up. Last year a western concern put a baby-carriage with pneumatic tires on the market and it took like hot cakes. The tire itself is a regular hose-pipe tire and is used on a wood-rimmed wire wheel or on a wooden wheel. It cannot be used on every wheel, as the rim must be especially grooved just as in the case of bicycles. It measures not more than an inch in diameter, and is inflated by means of a hand or foot pump. The retail cost of a set of wheels with pneumatic tires is from $12 to $16, and, judging by the happy expression of the youngsters who own a set, they are cheap at that price. This year sees still another improvement in baby-carriages, ball-bearing wheels with pneumatic tires.

THE amount of capital invested in the manufacture of rubber bicycle-tires in the United States is estimated by an exchange at $8,000,000, the number of employés at 3000, and the production of tires for this year at 3,000,000.

INDIA-RUBBER GOODS IN THE NEW TARIFF LAW.

A Comparison With Previous Rates of Duties.

[NOTE.—Wherever blanks occur in the table, it is because the records of the Treasury Department fail to supply data suited to the new classification of imports.]

Paragraph.	ARTICLES.	Importations, Fiscal Year, June 30, 1896.		Duties Estimated under New Law.	Rates of Duty Under—			Average Ad Valorem Under—		
		Value.	Duties.		McKinley Law.	Wilson Law.	Dingley Law.	McKinley Law.	Wilson Law.	Dingley Law.
	SCHEDULE A—CHEMICALS.									
56	Whiting and Paris White, dry.....lbs.	$ 2,840.06	$ 1,965.13	$ 1,965.13	½ c.	¼ c.	¼ c.	142 48	69.19	69.14
60	Litharge.....lbs.	2,166.00	1,083.05	1,985.58	3 c.	1½ c.	2¾ c.	94.91	50.02	97.66
84	Sulphur, refined.....tons.	5,338.12	1,067.62	2,440 00	$8	20%	$8	34.23	20.	45.71
	SCHEDULE I—COTTON MANUFACTURES.									
314	Articles of wearing apparel and ready-made clothing, of which India-rubber is a component material.....lbs.	.....	.....	....	50 c. & 50%	.....	15 c. & 50%	89.44	.....	61.81
320	Gimps, galloons, webbing, bicycle-tire linings, goring, suspenders, etc., elastic or non-elastic.....lbs.	438,455.90	197,305.16	197,305.16	40 c.	45%	45%	40	45	45
	SCHEDULE K—WOOLEN GOODS.									
371	Webbing, gorings, suspenders, braces, etc., elastic or non-elastic.....lbs.	114,103.88	57,051.94	102,693.49	60 c. & 60%	50%	60 c. & 60%	93.82	50	90
	SCHEDULE L—SILK GOODS.									
389	Webbing, goring, suspenders, etc., with or without India-rubber.....lbs.	320,060.49	144,027.22	160,030.24	50%	45%	50%	50	45	50
390	Knit goods, composed in part of India-rubber.....ozs.	....	....	.....	8 c. & 60%	50%	60%	81.42	50	60
391	Other manufactures of silk composed in part of India-rubber.....ozs.	.....	.....	.....	50%	50%	50%	50	50	50
	SCHEDULE N—SUNDRIES.									
449	Manufactures of India-rubber.....	179,708.18	44,927.05	53,912.45	30%	25%	30%	30	25	30
450	Manufactures of hard rubber.....	87,431.00	26,229.30	30,600 85	35%	30%	35%	35	30	35
450	Manufactures of Gutta-percha.	82,106 17	24,631.85	28,737.16	35%	30%	35%	35	30	35

EXTRACTS FROM THE NEW LAW.

THE paragraphs which follow are copied from the United States tariff law, passed on July 23. The rates on imports of India-rubber and Gutta-percha goods are for the most part higher than under the law of 1894, but lower than under the famous McKinley law. It has not been possible to make comparisons complete in all particulars, on account of differences in classification under the new law.

SCHEDULE I.—COTTON GOODS.

314. Clothing, ready-made, and articles of wearing apparel of every description, including neck-ties or neckwear composed of cotton or other vegetable fiber, or of which cotton or other vegetable fiber is the component material of chief value, made up or manufactured, wholly or in part, by the tailor, seamstress, or manufacturer, and not otherwise provided for in this act, 50 per cent. *ad valorem*. Provided: That any outside garment provided for in this paragraph having India-rubber as a component material shall pay a duty of 15 cents per pound and 50 per cent. *ad valorem*.

[Under old law, 50 per cent. *ad valorem*, without different duties for goods made up with India-rubber.]

320. Bandings, beltings, bindings, bone-casings, cords, garters, lining for bicycle-tires, ribbons, suspenders and braces, tapes, tubing, and webs or webbing, any of the foregoing articles made of cotton or other vegetable fiber, whether composed in part of India-rubber or otherwise, and not embroidered by hand or machinery, 45 per cent. *ad valorem*.

[Under old law, 45 per cent. *ad valorem* for practically the same classification.]

SCHEDULE J.—FLAX, HEMP, AND JUTE GOODS.

337. Oilcloth for floors, stamped, painted, or printed, including linoleum or corticene, figured or plain, and all other oilcloth (except silk oilcloth) under twelve feet in width not specially provided for herein, 8 cents per square yard and 15 per cent. *ad valorem*; oilcloth for floors and linoleum or corticine, twelve feet and over in width, inlaid linoleum or corticene, and cork carpets, 20 cents per square yard and 20 per cent. *ad valorem*; waterproof cloth, composed of cotton or other vegetable fiber, whether composed in part of India-rubber or otherwise, 10 cents per square yard and 20 per cent. *ad valorem*.

[Under old law, such waterproof cloth, valued at not more than 25 cents per square yards, was dutiable at 25 per cent. *ad valorem*; valued at more than 25 cents per square yard, the rate was 40 per cent.]

339. Laces, . . . braids, edgings, insertings, flouncings, galloons, gorings, and bands. . . . All of the foregoing, composed wholly or in chief value of flax, cotton or other vegetable fiber, and not elsewhere specially provided for in this act, whether composed in part of India-rubber or otherwise, 60 per cent. *ad valorem*. . . .

[Under old law, 50 per cent. *ad valorem*.]

SCHEDULE K.—WOOLEN GOODS.

371. Webbings, gorings, suspenders, braces, bandings, beltings, bindings, braids, galloons, edgings, insertings, flouncings, fringes, gimps, cords, cords and tassels, laces and other trimmings and articles made wholly or in part of lace, embroideries and articles embroidered by hand or machinery, head nets, netting, buttons or barrel buttons or buttons of other forms for tassels or ornaments, and manufactures of wool ornamented with beads or spangles of whatever material composed, any of the foregoing made of wool or of which wool is a component material, whether composed in part of India-rubber or otherwise, 50 cents per pound and 60 per cent. *ad valorem*.

[Under old law, 50 per cent. *ad valorem*.]

SCHEDULE L.—SILK GOODS.

389. Bandings, including hat bands, beltings, bindings, bone casings, braces, cords, cords and tassels, garters, gorings, suspenders, tubings, and webs and webbings, composed wholly or in part of silk, and whether composed in part of India-rubber

or otherwise, if not embroidered in any manner by hand or machinery, 50 per cent. *ad valorem.*

[Under old law, 45 per cent. *ad valorem.*]

390. Laces and articles made wholly or in part of lace, edgings, insertings, galloons, chiffon or other flouncings, nets or nettings and veilings, neck ruffling, ruchings, braids, fringes, trimmings, embroideries and articles embroidered by hand or machinery, or tamboured or appliqued, clothing ready-made, and articles of wearing apparel of every description, including knit goods, made up or manufactured in whole or in part by the tailor, seamstress, or manufacturer; all of the above-named articles made of silk, or of which silk is the component material of chief value, not specially provided for in this act, and silk goods ornamented with beads or spangles, of whatever material composed, 60 per cent. *ad valorem:* Provided, That any wearing apparel or other articles provided for in this paragraph (except gloves) when composed in part of India-rubber, shall be subject to a duty of 60 per cent. *ad valorem.*

[Under old law, 50 per cent. *ad valorem.*]

391. All manufactures of silk, or of which silk is the component material of chief value, including such as have India-rubber as a component material, not specially provided for in this act, and all Jacquard figured goods in the piece, made on looms, of which silk is the component material of chief value, dyed in the yarn, and containing two or more colors in the filling, 50 per cent. *ad valorem:* Provided, That all manufactures, of which wool is a component material, shall be classified and assessed for duty as manufactures of wool.

[Under old law, 45 per cent. *ad valorem.*]

SCHEDULE N.—SUNDRIES.

449. Manufactures of bone, chip, grass, horn, India-rubber, palm-leaf, straw, weeds, whalebone, or of which these substances or either of them is the component material of chief value, not specially provided for in this act, 30 per cent. *ad valorem.* . . . . .

[Under old law, 25 per cent. *ad valorem.*]

450. Manufactures of leather, finished or unfinished, manufactures of fur, gelatin, Gutta-percha, human hair, ivory, vegetable ivory, mother-of-pearl and shell, plaster of paris, papier maché, and vulcanized India-rubber known as "hard rubber," or of which these substances or either of them is the component material of chief value, not specially provided for in this act. . . . . 35 per cent. *ad valorem.*

[Under old law, 30 per cent. *ad valorem.*]

HEARD AND SEEN IN THE TRADE.

HOW pleasant it would be if the manufacturers of mechanical rubber goods—or any other kind of goods—could fix their prices, once for each season, and then go a-fishing, confident that prices would stay fixed and that their factories would be kept busy filling orders. No doubt things are tending in that very direction, just as the time is coming when bank-accounts will grow while their owners sleep and when bicycles will stand alone and tires will hold air whether they are punctured or not. But what the rubber-men want to know is how to deal with prices during the few remaining months of the nineteenth century. "I believe in giving my attention to my own business," said one manufacturer, "and leaving the others to do the same." It is likely that he spoke the mind of several others. Here's the reason for his apparent selfishness: "We have been at work all these years trying to build up a business at which we could make some money. Along come some competitors who don't understand common business principles, or who deliberately disregard them, and who seek to undermine our trade by selling at prices for which honest goods simply cannot be sold at a profit. After doing all that they can to cut our throats, our competitors find themselves falling into the financial mire, and they call upon us to help them out. Suppose that we did, how long would it be before the very same men would be cutting prices again, or adulterating their goods again, in order to tempt away some of our customers? I cannot see how we are under any obligation to come to the rescue of the fellows who have fallen into a pit they were digging for other people."

* * *

"THE question with me is," said another manufacturer, "how the mechanical-goods trade can get together on any basis that will improve prices. There is too much variety in the trade—too many kinds of goods—too great a range in prices. Suppose that all the concerns should agree upon an advance of 10 per cent. That wouldn't do. Some manufacturers don't need it. It would make the goods too high of those concerns who have never cut their prices down to bed-rock. Nor would the advance help another class—the people who can sell goods only by cutting under somebody else. I mean that if the worst price-cutters alone should make an advance, they would get up to the figures of the more substantial members of the trade, and then they couldn't get orders. And this is what a general advance in prices would mean. Raising the standard of prices would enable the men who live by cutting prices to undersell their neighbors, and to make some money at it, whereas they are now making nothing. But what would be the benefit to the other class of manufacturers? It would only drive off some of their customers. If the good of the trade is to be considered, I am not certain but that the best thing to do is to let the people who are in trouble now go on until they reach the end, and then an undesirable sort of competition will be over."

* * *

MORGAN & WRIGHT (Chicago) are making single-tube bicycle-tires. At their New York depot THE INDIA RUBBER WORLD was told that the first consignment was on the way from the West. Their 1897 catalogue defends the double-tube tire as strongly as ever, but they have decided at last to heed the growing partiality of eastern wheelmen for single-tube tires. Their representatives here urged such a step long ago. But even now the manufacturers do not expect to "push" the new tire in the Chicago district or further west, where their old styles remain in demand,

"The roads are still too rough in the West," said a tire salesman, "for single-tube tires, just as they are in most of Europe. Here in the East, on smooth city streets and in the parks, with little danger of punctures, the lightness of the single-tube tire commends it, and there is no question of its being more easily repaired. But over the greater part of this country the roads are so rough that, if a single-tube tire should be ridden, and every puncture filled with a plug, it would soon fall to pieces."

The new single-tube tire is made under the Morgan & Wright patents, the method of manufacture differing little from that of their other tires. The inner tube is drawn inside the fabric and cemented there, instead of the whole tire being vulcanized together, as under the Tillinghast patents. The Morgan &

Wright quick-repair strip is used, besides which any other methods of repairing single-tube tires are available. A special claim made for the new tire is that it is not porous. Each single tube is tested before it is introduced within the fabric, and if it is sound when put in place, it will remain so until punctured. In the case of other single-tube tires, they say, it is impossible to tell whether the tires are porous until they have been tested by use. The price of the new tire is the same as for other single tubes.

* * *

HERMANN BOKER & CO. (New York) are an important hardware firm who early saw the natural advantages which their trade possesses for the distribution of bicycles, and, incidentally, of tires. The superintendent of their bicycle department thinks the trade outlook favorable. "The Pope people did not lead in the late cut in prices," said he to THE INDIA RUBBER WORLD; "they only followed. I doubt whether any bicycles have been sold this season at list prices, unless possibly at the beginning. The standard price of a good bicycle not long ago was $100; now it is $75, and before long it will be down to $60, or even $50. But then goods will sell more on their merits, and some undesirable features of the trade will be dropped. Heretofore the anxiety of some houses to make sales has led to the supplying of free lanterns and other accessories in such number as to offset all profits on the wheel. The time is near when the bicyclist, while getting his wheel cheaper, must expect to pay in addition for every extra. Why already we have a varying scale of prices for the same bicycle, without a tire, with a cheap tire, and with a high-priced tire. There will always be a demand for the best tire that can be made, and a demand for cheaper ones, and in the end prices of wheels will vary accordingly. We consider that the drop in the price of high-grade wheels will add largely to the demand, all of which will benefit the rubber-manufacturer, on account of the corresponding increase in the call for tires."

* * *

MR. J. G. GEORGE, of the New York Belting and Packing Co., Limited, who returned lately from the Pacific coast, brings encouraging news of heavy crops all along his routes of travel, and of a corresponding feeling of encouragement among the farming classes. This, he thinks, will be reflected in a larger amount of currency in circulation in the far West, increased orders for goods of all kinds, including rubber, and, ultimately, a better condition of the manufacturing interests. So much of the prospective increase in prosperity as may be due to better agricultural conditions, Mr. George thinks, will be evident in the western cities before it is felt in the East, though whatever helps business in any part of the country benefits all parts before the effect is spent. By the way, Mr. George does not base his belief in better times upon the crop prospects alone. On the northern Pacific coast the lumber interest is a very important factor in trade, and for some years it has been in a depressed condition. Now, however, since the new tariff law will restrict the importation of Canadian lumber, it is expected that new activity will be seen in the forests of Washington and Oregon, giving an impetus to general trade in that remote section. For the same reason he looks for better trade in the lumber region throughout our northern borders. A new era of development seems to Mr. George to be certain to follow the completion of the great irrigation systems in Arizona and elsewhere in the arid belt. Crops may be expected then as a regular thing where nothing can now be counted upon to grow. The effect will be that of opening great new states to settlement.

* * *

PRESIDENT SPADONE, of the Gutta Percha and Rubber Manufacturing Co. (New York), says that they have been putting themselves in readiness for any increase in the general prosperity, which must be reflected more or less in the rubber trade. But he believes in being conservative. "The era of prosperity is here already," he said, "according to the newspapers. But they promise too much, and some people may be cruelly disappointed. I hope that the crops are, as have been reported, larger than usual, and that the export demand will be good. But it will be months yet before the crops now growing can be moved, months before the railroads can profit from the removal of these crops, and months more before all of this increase can have a favorable effect upon the manufacturers. Business is bound to be favorably influenced by the passage of the tariff bill, if for no other reason than that the agitation of this question has distracted the minds of the people, but the tariff question can hardly be regarded as settled. If some degree of prosperity does come now, the people will be content; if none is seen in the near future, the country is full of people ready at the first opportunity to vote for a change."

* * *

MR. WILLIAM A. DE LONG, of the New York Commercial Co., who has visited Europe twice recently, is of the opinion that the marked advance in the consumption of rubber on the continent probably has reached its limit. Speaking of Germany he said: "The industrial changes in that country in the last few years have been wonderful. It is now really a new Germany. Her manufacturers have tried to make everything, and the people have greatly increased their consumption of many lines of goods. The increased consumption of rubber there has been due not so much to their export trade as to the growth in the use of rubber goods at home. Lately everybody has been buying bicycles, and there has been a great advance in the use of electrical apparatus—two items which have called for a great deal of rubber. But this increase cannot go on always. The population of Germany is stationary, instead of growing as our own population does. The Germans do export a great many goods, but what is of more importance in an economic sense is their export of men and women—their surplus population. Then their buying capacity does not compare with that of our own people. When everybody in Germany who can afford a bicycle has bought one, and when all the towns that can afford it have become supplied with electricity, the increase in the consumption of rubber there will receive a check."

* * *

THE Whitman & Barnes Manufacturing Co. (Akron, Ohio), whose rubber-cushioned horseshoes have been mentioned in THE INDIA RUBBER WORLD, say that they are selling fifty sets this season for every one sold a year ago. These articles are in special demand in eastern cities, and particularly on asphalt streets. The first rubber horseshoes were designed for diseased feet; nowadays they are demanded for general utility. They prevent horses from slipping on smooth pavements, and make horses more sure-footed on any pavement than the plain metal shoe. It is getting to be the thing to equip fire-department horses with rubber shoes, as they can thus turn corners better, or be brought to a more sudden stop. About a year ago the Akron concern, which had depended upon the rubber-manufacturers for cushions for their horseshoes, installed a rubber plant of their own, and their success has been such that they talk of enlarging it and manufacturing other novelties in rubber. By the way, the horseshoes which they have made up to date have been the invention of H. H. Gibbs, but within a few days past they have been taking orders for a new type of horseshoe, by another inventor, which will be described later.

NEW TRADE PUBLICATIONS.

MECHANICAL RUBBER GOODS, MANUFACTURED BY THE B. F. Goodrich Co., Akron Rubber Works, Akron, Ohio. New York Branch, 66-68 Reade street. [Stiff paper, 4½"×6½". 83 pp.]

A WIDER range of products is included in this than in any other catalogue of mechanical rubber goods in this country. The company make also stationers' goods, druggists' sundries, dental rubber, and electrical supplies, as is the practice of the larger rubber concerns abroad. Some items in this catalogue not usually embraced in the catalogues of other companies are Gutta-percha belting, divers' hose, glass-house hose, window rubbers for railway-cars, pulley or sheave fillings, sewing-machine rubbers, soft-rubber socket covers and bushings, grain-drill tubes and feeders, and many others. The regulation lines of belting, hose, etc., are largely represented, and the company are extensive manufacturers of tires.

CATALOGUE OF SPECIAL RUBBERS USED BY PLUMBERS. MANUfactured by The Mechanical Rubber Co., Cleveland, Ohio. [Paper. 3½" × 6½". 20 pp.]

UNDER the head of "plumbers' rubber specialties" this firm include all the rubber parts which enter into the construction of plumbing fixtures. They have given considerable attention of late to this class of goods, and have a very complete equipment for making the same. The items include washers, gaskets, valves, stoppers, disks, balls, and many other parts, all of which are illustrated in this publication, and the prices given. The same company are now preparing a new general catalogue of mechanical goods, which they hope to have ready soon.

CATALOGUE AND PRICE-LIST, 1897-98. RUBBER BOOTS AND SHOES Manufactured by Lycoming Rubber Co., Williamsport, Pa. [Paper. 3¼" × 6". 48 pp.]

WHILE making a full line of rubber footwear, including goods as light as any in the market, and possibly more slender than any other, the Lycoming company may be said to make a specialty of heavy grades—lumbermen's goods, snow-excluders, and the like. Their two brands are the "Lycoming" and "Keystone," for first and second grades, and these goods rank with the best American production in this line. The catalogue is neat-looking throughout and is handsomely covered.

ANNOUNCEMENTS.

D. T. MALLETT (No. 271 Broadway, New York) announces a new edition of his "Hardware Directory," which includes the wholesale and retail hardwaremen in the United States and Canada, with capital ratings. The list contains about 25,000 names. It is bound in flexible leather covers and costs $2.

=The well-known firm of James Leffel & Co. (Springfield, Ohio), have issued a neat, new "Pamphlet D," replete with numerous illustrations and descriptions of the throttling and automatic engines, with portable and stationary boilers, which they are building in a variety of sizes and styles. A copy will be sent free to parties interested, on application to the company.

HIGH PRICES OF CANADIAN RUBBERS.

CANADIAN manufacturers of rubber boots and shoes duplicate as far as possible the gross prices in the lists of manufacturers in the United States. There are, however, a number of items of rubber footwear in demand in the Dominion, where the snowfall is greater than on this side the border, more heavily lined and otherwise differing from our products. One other difference this year is that the reduction in the United States of from 3 to 8 cents per pair on goods in cartons has not been met by the Canadian makers. But while the gross prices are so nearly the same, the net prices are much higher in the Dominion, owing to less liberal discounts from the list. On first-grade goods here the discount is 25 and 5 per cent., while in Canada this year it is only 20 per cent. The effect upon net prices is shown in the following comparison of some leading items in this year's Canadian and domestic catalogues, the gross prices, as already stated, being the same. The secret of the ability of the Canadians to maintain prices so much higher is easily explained. They have a protective tariff of 25 per cent. on rubber shoes. The figures follow:

DULL FINISH BOOTS.

	Canada.	U. S.
Men's hip, heavy duck-lined, snag proof	$4.16	$3.71
Men's hip, felt-lined	3.60	3.21
Men's sporting, fusion-lined	3.60	3.21
Men's short, felt-lined	2.40	2.14
Men's short, fusion-lined	2.40	2.14
Boys' short, felt-lined	2.00	1.78

BRIGHT FINISH BOOTS.

Men's pebble leg, fawn wool net lined	$2.40	$2.14
Women's pebble leg, black fleece lined	1.44	1.28
Misses' pebble leg, black fleece lined	1.20	1.07
Children's pebble leg, black fleece lined	1.08	.96
Youths' short, felt lined	1.44	1.28

RUBBERS, SANDALS, AND CROQUET.

Men's plain rubbers	$ .56	$ .50
Boys' plain rubbers	.44	.39
Youths' plain rubbers	.36	.32
Men's imitation sandals	.36	.50
Boys' imitation sandals	.44	.36
Youths' imitation sandals	.36	.32
Women's imitation sandals	.36	.32
Misses' imitation sandals	.28	.25
Children's imitation sandals	.24	.21
Women's croquet	.36	.32
Misses' croquet	.28	.25
Children's croquet	.24	.21

SPECIALTIES IN CARTONS.

Men's jersey arctics	$1.28	$1.08
Men's storm alaska	1.00	.87
Men's storm slipper	.64	.55
Men's light overs	.60	.51
Women's jersey storm alaska	.80	.69
Women's storm slipper	.44	.37
Misses' storm slipper	.36	.29

The average range of net prices for boots in Canada, as given in the above list, is 12½ per cent. over American prices for corresponding items. On the selected items of rubbers, sandals, and croquet—and they are fairly representative—the Canadian prices average 12½ per cent. higher. And on the specialties in cartons, the average is nearly 17½ per cent. higher than in the United States.

HE LOOKS LIKE SPEAKER REED.

"THE same thing happens every day, and I do not think it strange that people take me for Speaker Tom Reed now," said W. G. Sickel, mayor of Trenton, N. J., in the Palmer House, according to the Chicago *Chronicle*. Mr. Sickel, by the way, is also a prominent rubber-man in Trenton. "The only difference between the 'czar' and myself is that I have at least twenty-five hairs on my head, where Mr. Reed has but twelve by actual count. Some time ago I was in Washington, and every place I would go some one would say, 'Hello, Mr. Speaker.' One evening I was with Senator Youmans, of Washington, walking down Pennsylvania avenue, when we saw a building on fire. We hurried up to the fire-line, where a number of policemen stopped us. Suddenly one looked up at me, and, with a low bow, said: 'I did not know you at first, Mr. Reed. You can walk over to the other side if you wish.' And that is the way I happen to get mixed up with Mr. Reed almost every day."

TRADING IN RUBBER STOCKS FOR JULY.

IN the table below is shown the extent and nature of the transactions in Rubber stocks on the New York Stock Exchange by weekly periods during July; also, for the same month in each preceding year since the incorporation of the United States Rubber Co.:

LISTED ON THE NEW YORK STOCK EXCHANGE.
201,660 shares Common=$20,166,000.
194,005 shares Preferred=$19,400,500.

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
July 1–3, 1897	270	12⅛	12⅛	300	58	57¾
July 5–10	4,901	12½	11¼	640	57	54¾
July 12–17	1,591	11¾	10½	1,096	54	52
July 19–24	2,115	10⅝	10	1,290	55	50
July 26–31	10,607	15½	11	5,426	59	55½
Total, July, 1897.	19,484	15½	10	8,752	59	50
Total, July, 1896.	3,760	17⅛	15¼	5,157	78¾	70
Total, July, 1895.	31,482	42⅛	39	3,189	94¼	93
Total, July, 1894.	1,022	36	33	443	91¼	89¼
Total, July, 1893.	2,774	38	25	1,504	77	65

TO SELL TRENTON RUBBER CONCERNS.

THE receiver of the Trenton Rubber Co., on July 27, applied to the Trenton court of chancery for an order for the creditors to show cause why he should not accept a bid of $47,000 for the buildings and machinery. The bid is offered by J. O. Stokes and W. J. B. Stokes, of the Home Rubber Co., and Edward H. Garcin, late general-manager of the Trenton company. At the same time Receiver Charles B. Case asked leave to dispose of the Eastern Rubber Manufacturing Co., at public or private sale, as the court might see fit.

Lawyer W. D. Holt opposed the motions on the ground that arrangements were being made by Frank A. Magowan by which he expected to get the companies out of the receivers' hands. Orders to show cause why the motions should not be granted were made returnable on August 10.

A NEW USE FOR RUBBER IN PRINTING.

IN printing-offices, it is customary to tie up type, which it is necessary to keep standing in pages, with cord wrapped many times around the type. G. E. San Garde, of London, has introduced a substitute in the form of specially-prepared India-rubber bands, by the use of which he guarantees a saving of eight hours out of ten. He claims a firmer grip, which is retained, while ordinary page-cord often works slack, and becomes detached. The waste of page-cord is enormous, and this it is claimed will be saved by the use of these rubber bands, which, by reason of the special treatment, will be of more lasting service than cord. The price is said not to be greater than that of the rubber bands in common use.

THE late Very Rev. Michael McCabe, of Pawtucket, R. I., died possessed of 103 shares each of common and preferred stock in the United States Rubber Co. His executors claimed that this belonged to his personal estate, whereas it was contended on the other hand, that the shares were only held in trust for the Rhode Island Catholic Orphan Asylum. There having been a resort to litigation, the Rhode Island appellate court made a decree in favor of the asylum trustees.

A SPECIAL TARIFF FOR ENGLAND.

THE new Canadian tariff, mentioned in THE INDIA RUBBER WORLD for May 10, contained one feature not referred to at that time, because it did not at once become operative. That was a proposed discriminating duty in favor of Great Britain, intended as the first step toward a closer commercial union of the British possessions. It was proposed that on imports from Great Britain the duties should be 12½ per cent. lower than upon imports from other countries, and, after July 1, 1898, they should be 25 per cent. lower. It happened that under existing treaties Germany and Belgium, and, incidentally, most other countries, were entitled to the same concession, under the "most-favored nation" clause. Now, however, Great Britain has "denounced" the treaties with Germany and Belgium, which sweeps away the "most-favored nation" business, and henceforth British goods can enter Canada under the reduced duties. The new arrangement will hardly benefit the British rubber trade, because Canada is so rapidly supplying her own demands.

NEW WATERPROOFING METHODS.

THE firm of Amos & Co. (Frankfort o/M.) propose to waterproof fabrics, which, for some reason or other, may not bear the ordinary process, by treatment with ½ to 1 per cent solutions of oleate of alumina, or of some other fatty salt of alumina, in benzole. The solution may simultaneously contain fat, fatty oils, wax, resin, and the like. The solvent may easily be removed from the fabric and recovered.

A patent has also been taken for the use of a composition prepared by treating a solution of cellulose in strong cuproammonia, containing at least 3 per cent. of cellulose, with metallic zinc, until all the copper be precipitated. Pad the fabric with the adhesive liquor thus obtained, squeeze, and dry.

THE SKILL OF THE RUBBER-CUTTER.

THERE are few more interesting places in the Columbia bicycle works than the pneumatic room of the rubber-mill. Here, on clean long tables of white pine, the sheets of rubber are cut into strips for the tires. First, the sheets are drawn over the table from the rolls at the end, and the men, brushes in hand, smooth out all the air swellings and dust the surface with flour or soapstone to prevent any stickiness. Then the head cutter twirls his rapid compasses along the width at either end, making the points of division where the sheet will be divided into strips three or four inches wide, according to the size of the tires. At these points the helpers hold a chalk line, one at either end, and the head cutter snaps it at the middle, making seven, eight, or nine parallel lines running the length of the sheet.

Now each man grasps his rubber knife, specially ground so as to give a long cutting edge, and, dipping its blade in the can of water at his side, starts down one of the white lines, walking backward, his body bent, his eyes intent, and cutting as he goes. He has nothing to support his arm, nothing to guide him but the skill born of long practice. Should his knife err from the line, to right or left, by so little as the sixteenth of an inch, the strip would be spoiled, and the rubber for one tire tube, at least, would go into the scrap heap. But his knife does not err, his hand does not waver, and from one end of the line to the other a clean cut shows that never leaves the narrow chalk mark.—*McClure's Magazine.*

THE RUBBER-SHOE JOBBING TRADE.

BY WILLIAM MORSE.

ALMOST from the time the first rubber boots and shoes were made, their distribution to the retail shoe trade has been very largely in the hands of the jobbers of leather boots and shoes, with which goods it would seem at first to be naturally connected. There has always been this objection, however. These jobbing houses have always considered rubber footwear more or less of a side line, one which they were required to handle, but one in which they could take but a secondary interest.

Within the last few years the increased variety of shapes in leather footwear has demanded a similarly large increase in the number of shapes of rubbers, while the improvements in boots and overshoes has correspondingly increased the number of styles. So great has the variety become, that it is practically impossible for most jobbers of leather shoes to carry so burdensome an amount as a side line.

Thus it is that a large proportion of the retail shoe dealers have turned their trade to those houses which make a specialty of rubber footwear exclusively, who, by having constantly on hand not only every required width, style and shape of toes and heels in rubber shoes, but who carry all these lines in such large quantities as to be enabled to supply all demands, however large, at once, and at the lowest market rates. It is on this account that retailers have found it to their advantage to purchase of the exclusively rubber houses.

There are several of these houses in New York and the other leading cities, where large stocks are carried, supplying every need any retailer has for this line of goods, and these houses have met with success as large distributers of certain brands of goods, and have become important factors in the distribution of these goods from their several manufactories.

Previous to the consolidation of all the leading rubber footwear companies (save one) into one large company, called the United States Rubber Co., there existed a seeming prejudice in favor of one or another particular brand, in the minds of retailers, each of whom insisted upon having his favorite brand. This consolidation, to a very large extent, has eliminated that prejudice, for retailers now know that all the leading lines are made of equal quality and value by the one company, in its different factories, and that, the price being the same, one brand can now be sold just as well as another, and with just as much confidence. Consequently, the large jobbing houses dealing exclusively in rubber footwear, which can supply any width, any shape, any extreme of style, and which can supply these in any quantity, small or large, at once, on receipt of the order, are naturally receiving an ever-increasing patronage, no matter what brands are carried in stock.

This is the day of specialties. Houses devoting their whole energies to one special line, are every year increasing in number and importance, and the houses which are devoted exclusively to this business have succeeded to a wonderful extent and merited the large clientage of trade that has come to them. —*Boot and Shoe Recorder.*

THE CHINESE RAIN-COAT.

IT is a well-known fact that the Chinese claim to have invented centuries and centuries ago and manufactured almost everything that modern civilization affords. It is perhaps not a matter of general knowledge, however, that they have for generations been manufacturers of mackintoshes, and still stick to the industry. Their rain garments, however, do not depend upon rubber for waterproof qualities. They are more like natural cravenettes, being made of a fiber which has water repelling qualities of its own. This fiber is produced by a species of palmetto, the *Chamærops fortuner*, which is found in northern China and also in the island of Chusan, off the China coast. The leaves of this tree are strongly fibrous and the farmers all through northern China make make coats and hats of the fiber which serve every purpose of the modern mackintosh, being worn only in rainy weather. To the occidental eye, this mackintosh may not appear beautiful, but it doubtless does to the wearer and in the course of time, when THE INDIA RUBBER WORLD reaches this imitative people, and they learn of American styles, they no doubt will add three capes to the garment or perhaps make it up in Inverness style.

THE PRATT RUBBER CARRIAGE-TIRE.

AT the latest Boston horse-show not a little attention was attracted by the display of the Pratt semi-pneumatic carriage-tire. This invention is covered by several United States patents, ranging in date from early in 1892 to December 22, 1896, and, having been fully tested, it is now offered to the trade by a company well equipped to market goods of this class. The distinctive feature of the Pratt carriage-tire is its cellular inner air-tube, made of good India-rubber by an original process. This air-tube is composed of an immense number of cells, and is made pneumatic by constriction by means of an outer jacket or cover. This constriction is capable of being regulated, so as to make a tire of any desired degree of softness or rigidity, thus adapting to the lightest sulky or to the heavy brougham. It is in short, to quote the inventor, "a pneumatic tire that requires no inflation—that cannot burst and is uninjured by punctures." The cover is made of sea-island cotton fabric, protected on its outer surface with a specially compounded India-rubber tread. The steel rims used with this tire are flat on the bottom, made to fit any felloe, and are put on in the same manner as any ordinary steel tire, no alteration being required in the wheels themselves. The outer cover, by the way, may be renewed readily when worn out The inventor of this tire is C. A. Pratt. It is manufactured by the Rand-Wayne Co., No. 45 Arch street, Boston, Mass., whose factory is at East Watertown. Mr. Rand, by the way, was connected to an important degree with the building up of the Newton Rubber Works. In a catalogue recently issued by the firm, testimonials are given from several well-known physicians, turfmen, and business men who have used the Pratt tire upon various types of vehicles.

THE CANDEE COMPANY AS A PIONEER.

THE Candee Rubber Co. has certainly had a remarkable record, and one of which any company might be proud. It was the first company in the world to make rubber footwear of vulcanized rubber. It was the first of all the rubber companies to import its own crude rubber. It invented and introduced the "croquet," now the most generally worn of all rubbers. This was in 1868, when the game of croquet first became popular, and it was also the Candee company who introduced the high-vamp rubber for stormy days, which it calls the "Beacon" slipper, and which is called by various names by other companies. This shoe was introduced by the Candee company in 1873, and it was not made by any other company until the expiration of the Candee company's patent seventeen years afterwards, in 1890.

AMAZON INDIA-RUBBER EXPORTS, FIRST HALF OF 1897.

Shipments in detail from Pará and Manáos.

[NOTE.—The figures denote weights in Kilograms.]

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM	COARSE.	CAUCHO.	TOTAL.	
From Para:											
Pusinelli, Prüsse & Co.	591,169	144,318	445,679	258,301	1,439,467	661,067	150,126	158,862	43,907	1,013,962	2,452,429
Adelbert H. Alden	982,538	184,735	396,782	210,884	1,774,939	192,740	27,200	156,240	580	376,760	2,150,699
La Rocque da Costa & Co.	124,140	38,112	146,990	3,840	313,082	279,646	47,506	152,382	—	479,534	792,616
Rud. Zietz	14,410	5,021	62,353	—	81,784	445,947	64,192	131,509	15,943	657,591	739,375
R. F. Sears & Co.	165,124	47,714	89,942	22,054	324,834	14,566	2,894	1,930	7,175	26,565	351,399
Suarez & Co.	—	—	—	—	—	123,681	35,440	27,159	1,725	188,005	188,005
B. A. Antunes & Co.	31,450	10,540	4,230	—	46,220	35,306	12,556	14,783	1,862	64,510	110,730
Denis, Crouan & Co.	—	—	7,434	—	7,434	50,730	13,014	15,875	—	79,619	87,053
Pires, Teixeira & Co.	32,550	672	22,811	—	56,033	945	117	400	—	1,462	57,495
P. Mourraille & Bro.	—	—	—	—	—	7,371	79	3,001	19,115	29,566	29,566
Singlehurst, Brocklehurst & Co.	—	—	—	—	—	15,658	5,288	6,988	—	27,934	27,934
A. Berneaud & Co.	18,750	1,563	3,950	—	24,263	—	—	—	—	—	24,263
Edmund Reeks	—	—	624	4,286	4,910	—	—	—	—	—	4,910
Sundry Small Shippers	30,430	3,570	10,820	—	44,820	135,405	15,860	61,964	3,000	215,905	260,725
Total	1,990,561	436,245	1,191,615	499,365	4,117,786	1,963,065	374,272	731,093	93,307	3,161,413	7,279,199
From Manaos:											
Pusinelli, Prüsse & Co.	416,750	113,106	154,145	14,981	698,982	174,920	60,956	76,830	52,281	364,987	1,063,969
Witt & Co.	150,606	37,449	67,955	45,214	301,224	231,276	48,966	89,340	39,861	409,443	710,667
Marius & Levy	5,210	870	240	—	6,320	51,508	12,314	24,676	190,278	278,776	285,096
Rud. Zietz	—	—	—	—	—	159,887	32,506	50,621	19,734	262,748	262,748
Brocklehurst & Co.	71,301	17,421	29,941	8,582	127,245	38,582	6,540	9,546	52,504	107,172	234,417
J. H. Andresen	54,910	6,630	1,920	—	63,460	90,445	15,870	42,068	9,128	157,517	220,977
Adelbert H. Alden	73,610	20,230	33,130	11,963	138,933	—	—	—	—	—	138,933
Kahu Polack & Co.	—	—	—	—	—	53,414	16,209	31,878	17,057	118,558	118,558
De La Baume Lejenesse	8,601	—	42,397	11,662	62,660	15,503	—	16,881	13,269	45,653	108,313
B. A. Antunes & Co.	—	—	—	—	—	54,740	18,110	19,920	13,305	106,075	106,075
R. F. Sears & Co.	—	—	6,591	49,687	56,278	986	131	—	10,436	11,553	67,831
Luiz Schill & Sobrinho	—	—	—	—	—	16,490	5,780	12,960	—	35,230	35,230
Direct from Iquitos	—	—	—	—	—	29,708	2,985	97,921	328,968	459,582	459,582
Sundry Small Shippers	67,467	18,670	24,805	5,488	116,430	143,592	28,724	48,009	23,204	243,529	359,959
Total	848,455	214,376	361,124	147,577	1,571,532	1,075,841	251,307	527,610	770,025	2,624,783	4,196,315
Grand Total:											
January-June, 1897	2,839,016	650,621	1,552,739	646,942	5,689,318	3,038,906	625,579	1,258,703	863,332	5,786,520	11,475,838
June-December, 1896	2,925,720	672,648	1,215,207	265,991	5,079,566	3,288,533	632,540	1,433,242	301,649	5,655,964	10,735,530
Total for crop-year	5,764,736	1,323,269	2,767,946	912,933	10,768,884	6,327,439	1,258,119	2,691,945	1,164,981	11,442,484	22,211,368

Total in Pounds: To United States, 23,691,545; to Europe, 25,173,460; total, 48,865,005.

THIS WOULD BE WHITE VULCANITE.

AN entirely new thing in teeth has been invented which places artificial masticators within the reach of the masses. The inventor and manufacturer is a well-known New York dentist, who says that his new process will enable him to make complete sets of excellent teeth for $1.50 or $2, and still reap a satisfactory profit.

The invention is a departure from anything heretofore introduced in modern dentistry. It consists of a complete artificial set of teeth made entirely of rubber, the base, or plate, and the teeth being formed integrally. In their manufacture an ingenious method is employed which not only insures a correct formation of the artificial masticators, whereby they are made to closely resemble nature's product, but also simplifies the process of what is called "setting the teeth up." A hollow, flexible metallic matrix, which both internally and externally reproduces the formation of the natural teeth, is made, which, when filled with rubber and vulcanized, produces a perfectly formed set of teeth.

One of the greatest obstacles to be overcome was the shading of the rubber teeth, but this the inventor has accomplished by means of a chemical bleaching process. Another, but less satisfactory process of shading, is by the admixture of different-colored rubbers.

From a sanitary standpoint the rubber teeth are perfect, there being no joints, as in all other forms of artificial dentures, in which the secretions of the mouth may find lodgment. A more expensive form of the new teeth is that in which the masticating surfaces are capped with a continuous metallic facing which renders the denture practically indestructible and unbreakable. Gold, silver, platinum and aluminum have been used for making the crowns. One of the greatest advantages of the rubber teeth, aside from their cheapness, is their extreme lightness. They weigh less than half as much as any other form of denture.—*New York World.*

A CORRESPONDENT of the *Bulletin de la Société de Géographie Commerciale* (Paris) writes that he has discovered the *Ficus elastica* in abundance in Tonkin, and he thinks that, on account of the low cost of labor, the rubber-gathering industry might be established there at a profit. Anything conducted at a profit in a French colony would be a novelty.

TRADE AND PERSONAL NOTES.

THE Jenkins Rubber Co. will remove from Holyoke, Mass., to Elizabeth, N. J., for the sake of being more convenient to New York. A factory building 60×220 feet, now being prepared for them, will permit of an expected expansion of the business and an increase of the working force, which now numbers about seventy-five. The company manufacture a widely-known brand of steam-packing. The business was founded in 1876 by John H. Tuttle and conducted as the Tuttle Rubber Works. In 1894, after his death, it was reorganized as the Jenkins Rubber Co., with E. B. Jenkins (New York), president, and J. L. Davis (Holyoke), secretary.

=The L. Candee & Co. (New Haven, Conn.), who are running full-handed and on full time, report some heavy orders for rubber shoes and are hopeful of brisk business for an indefinite period.

=Henry E. Borden is now proprietor of the New Bedford Rubber Co. (New Bedford, Mass.), reported in the last INDIA RUBBER WORLD as having changed hands.

=The Thompson Rubber Co. (St. Paul, Minn.), a new concern mentioned in the last INDIA RUBBER WORLD, have become incorporated since, under the laws of Minnesota, with $10,000 capital. The directors are R. R. Thompson (Bloomington, Ill.), H. M. Temple, Theo. F. Smith, C. L. F. Kellogg, and C. W. Temple. The corporation is to exist for thirty years from July 22 last.

=An application has been filed in the probate court at New Haven, Conn., asking that the assets of Frank C. Tuttle be restored to him. He made an assignment, on March 4, of the business and stock of the "Goodyear rubber store," and has since made a composition with his creditors.

=THE INDIA RUBBER WORLD has the address of a rubber-worker who has done some experimenting in the manufacture of toy balloons and would like an opportunity to continue the work under more favorable conditions.

=Colonel Samuel P. Colt, secretary of the United States Rubber Co., sailed from New York for Europe on July 17, intending to be absent about six weeks.

=Mr. James B. Ford, vice-president of the United States Rubber Co., has joined the ranks of the rubber-men who are yacht-owners. He has bought the *Waterwitch*, a two-masted schooner yacht carrying a crew of ten men.

=Titus B. Terry, of Toledo, Ohio, has filed suit in the common pleas court in that city against Arlington U. Betts, claiming damages in the sum of $2000, alleged to have been sustained through a breach of the contract under which Terry assisted in conveying the business of A. U. Betts & Co. to a stock company.

=The Boston Rubber Shoe Co. have posted notices at both their factories that there will be no shut-down during this month. Last year they stopped from August 8 to August 24, in addition to being idle six weeks earlier in the year. They are employing 3500 hands.

=The tire department of the National India-Rubber Co. have opened fine offices at the corner of Kingston and Bedford streets, Boston. The office is in charge of Mr. F. W. Heustis, the inventor of the machine for manufacturing tires, which is so soon to be used in the Bristol factories of the company named.

=The factory formerly occupied by the Chelsea Wire Fabric Rubber Co. (Chelsea, Mass.) is again on the market. This plant contains a fine equipment for the manufacture of either mechanical rubber goods or tires, the machinery, consisting of an engine, boilers, grinders, calenders, hose-machines, vulcanizers, etc., being still in position and in good shape.

=Mr. Samuel F. Randolph, manager of the World Manufacturing Co. (New York), is absent on a two weeks' trip through the West.

=Mr. E. H. Paine, sales-director of the United States Rubber Co., is at the Seacliff House, Nantucket, Mass., enjoying a two weeks' vacation.

=Complete miniature machines for experimenting in compounding and calendering rubber have lately been brought out by the Birmingham Iron Foundry (Derby, Conn). The rolls are 6×12 inches, chilled iron, and have both even and friction motion. For laboratory or experimental work this is exactly what is needed and what has often been asked for in the rubber trade.

=Mr. Albert T. Holt, a rubber-man of long experience both in manufacturing and selling, takes the place of Mr. E. L. Toy as general manager of the Diamond Rubber Co. (Akron, Ohio).

=The Cable Rubber Co. (Boston) are so flooded with orders that they are running the factory nights.

=The Bowers Rubber Co. (San Francisco, Cal.) have just added a complete plant for the manufacture of woven cotton hose, which is the first time goods of this kind have been made on the Pacific slope.

=Work on rubber shoes was resumed by the National India Rubber Co. (Bristol, R. I.) on July 6, after a lapse of several months. They began with a daily list of 200 cases of overshoes and 50 cases of arctics and have increased already to 10,000 pairs per day. Employment will be given to upwards of 300 hands in this department, besides those who have been at work continually on other lines of goods.

=Roberts Brothers, manufacturers of mackintoshes and awnings, Nos. 254–256 Franklin street, Chicago, have made an assignment to Martin Kimball. General dullness in business is given as the cause. The assets are reported at $35,000 and the liabilities at $50,000.

=E. L. Toy, who was manager and treasurer of the Diamond Rubber Co. (Akron, Ohio) up to June 24, has brought suit against that company for $861.67, which he claims was due to him for salary and unpaid at that date.

=The Lambertville Rubber Co. (Lambertville, N. J.) are adding to their plant a brick building 60×80 feet. It is expected that the working force will be increased.

=The business of Arlington U. Betts & Co. (Toledo, Ohio), reorganized recently under the corporate title Red Cross Rubber Co., has been sold to F. W. France & Co., large bicycle and sundries jobbers of Rochester, N. Y., and removed to that city. Edward G. Eager has resigned as manager of the Union [Bicycle] Manufacturing Co. (Toledo), to become connected with Messrs. France & Co., and Mr. Betts will also retain an interest. A new factory building has been secured in Rochester, and it is expected that the output of the "Red Cross" sundries will be increased largely. Already these goods have an extensive export demand. The business will be conducted hereafter as the Red Cross Rubber and Cement Co.

=The Empire Rubber Manufacturing Co. (Trenton) are about to install their own plant for the manufacture of reclaimed rubber.

=The DuBois Cushion Tire Co. (New York) have been incorporated, with $250,000 capital, by W. B. Richards, L. K. Merrill, and J. Immerman, to manufacture rubber tires for vehicles, under the patents of the late H. M. DuBois.

=Manufacturers of rubber tires and other rubber accessories for vehicles will be interested to learn that the twenty-fifth annual meeting of the Carriage Builders' National Association of the United States will be held in New York, at the Industrial building, Lexington avenue and Forty-second street, on October 19-21. In connection with the convention will be held the usual exhibition of carriage materials. Information can be had from Henry C. McLear, secretary, Wilmington, Del.

=Mr. Charles L. Johnson, of the United States Rubber Co., was last heard from in Paris, whence he meant to start on a leisurely tour of the continent.

=Mr. Frederick M. Shepard, president of the United States Rubber Co., has a summer residence at Delaware Water Gap one of the most beautiful resorts in this country.

=Mr. Edward Backus, of the Pará firm of R. F. Sears & Co., arrived in New York on one of the latest steamers from the Amazon, looking well after a year's absence from the United States.

=The Crescent Insulated Wire and Cable Co. (Trenton, N. J.) have been at work on a large order from Japan.

=Dr. H. H. Rusby, professor of botany and materia medica at the New York College of Pharmacy, is now at the Royal Herbarium at Kew (London), where he proposes to complete the determination of botanical collections made by himself and others in Venezuela and Bolivia. Doubtless an important contribution will be made to the existing knowledge of the botany of India-rubber.

=The Dean Tire Co. (New York) were attached by the sheriff on July 15, on four executions, aggregating $1905, principally for salaries. The largest, for $1179, was in favor of Herbert H. Dean. Application was made to the supreme court, on July 19, by two directors, Dudley Phelps and E. J. Knauer, for the appointment of a receiver. William McBride was appointed. The liabilities are reported at $4557 and the assets at $3380. They manufactured a pneumatic tire, protected against puncture by an armor of thin metal. The capital claimed was $50,000.

=Mr. James M. Stotesbury has resigned as selling-agent for the rubber-reclaiming plant of the United States Rubber Co., at Naugatuck, Conn., and it is understood that the policy has been abandoned of selling rubber from that plant to outside consumers. Mr. Stotesbury announces that he will be interested in the purchase and sale of scrap rubber and reclaimed rubber, at his home at Upland, Delaware county, Pa., until further notice.

=Mr. Henry F. Knowles, manager of the Globe Rubber Works (Boston) was one of the recent visitors to Buffalo during the Grand Army reunion.

=Mr. B. G. Work, superintendent of the B. F. Goodrich Rubber Co. (Akron, Ohio), is spending a pleasant vacation in Europe.

=Rubber associations seem to be the order of the day. In addition to that already formed in mechanical goods, there is one projected for carriage-cloth, and another for druggists' sundries.

=The L. C. Chase Co. (Boston), manufacturers of the Chase Tough Tread tires, have leased the factory formerly run by the Boston Rubber Co., at Chelsea, Mass., and are equipping it for the manufacture of their tires. Their Reading plant in future will be devoted entirely to carriage-cloth.

=Mr. R. M. Howison, who has for some time past sold crude rubber for Sgal & Co., has accepted a position at the factory of the Hartford Rubber Works Co. (Hartford, Conn.). His successor in the American market is Mr. Paul Heineman.

=C. J. Bailey (Boston), whose patented rubber specialties have had such a marvellous sale, is out with a new type of pneumatic tire, which he calls Bailey's "Won't-slip" tire. It is said to be just what the name indicates.

=Mr. H. H. Tyer, president, and Mr. John H. Flint, treasurer, of the Tyer Rubber Co. (Andover, Mass.), are spending the summer at Newcastle, N. H.

=The Home Rubber Co. (Trenton, N. J.) have by putting in another steam plant made their tire department entirely separate from the regular mechanical work of the factory.

=The Crescent Insulated Wire Co. (Trenton) have added a new brick building to their plant for the manufacture of molded rubber goods.

=The Joseph Stokes Rubber Co. (Trenton, N. J.) have made extensive improvements, adding new machinery to their factory and a monitor top to the main building.

=Mr. George Puchta, of the Queen City Supply Co. (Cincinnati, Ohio), was a recent visitor to the office of THE INDIA RUBBER WORLD.

=Mr. Rhodes Lockwood, president of the Davidson Rubber Co. (Boston), leaves for Europe this month, to be absent for several months.

=At the annual meeting of the Granby Rubber Co. (Granby, Que.), on July 21, the report presented showed the past year to have been the most successful in the history of the company. The old board of directors was reëlected.

=The Lawrence Felting Co. (Woonsocket, R. I.) have been so well supplied with orders that they have been obliged, for some time past, to run until 9 o'clock at night.

=The Union India Rubber Co. are going through the formalities of a voluntary dissolution, a receiver having been appointed, upon the application of the stockholders to the supreme court. William Allen, (No. 59 Wall street, New York) was appointed. The liabilities were stated at $42,844 and the assets at $100,000. The real estate of the company—a block 199.10×340 feet, fronting on Park avenue, above East 131st street, New York—has since been sold at auction to Frederick M. Shepard for $125,000. There is still some personal property to be sold.

=F. C. Howlett & Co., the rubber-goods jobbers of Buffalo, N. Y., have sent us a photograph of a baseball team, made up of their office and stock men. We hope to have by the end of the season a good account of the team, which makes a fine appearance.

=The Ohio Valley Rubber Co., (Akron, Ohio,) were incorporated under the laws of Ohio on July 28, with a capital of $25,000, to manufacture vehicle-tires, druggists' sundries, and rubber goods generally. The incorporators are Walter Sherbondy, Levi Monasmith, C. S McMains, J. A. Swinehort, W. F. Coleman, Anthony Waltz, and William Leathrow.

=The Granby Rubber Co. (Granby, Que.) have begun work in their box factory. On one floor, 36×84 feet, ten men are employed, turning out 500 packing cases daily. Another floor is devoted to the manufacture of shoe-cartons.

=The Goodyear Hose and Packing Co. (Philadelphia) have been incorporated, with $500 capital, by Samuel M. Best, John Barton, and others.

=The Somerville Tire Co. (Somerville, Mass.) is the name of a new concern organized to manufacture a puncture-proof tire. The tread is thickened by the addition of closely-woven fabric, chemically treated. The fabric is spirally wrapped and the tire has a rough tread.

=The La Crosse Rubber Mills Co., (La Crosse, Wis.) have been incorporated under the laws of Wisconsin, with $40,000 capital. The incorporators are A. Platz, J. J. Hogan, A. Hirshheimer, N. Haskell Withee, and Henry A. Salzer. The premises on which the new company have been at work were transferred, on July 20, from A. Hirshheimer to the company, for $3,200.

=R. L. Cornelius and William Terry, doing business as the Louisville Rubber Co. (Louisville, Ky.), dealers in rubber goods, made an assignment on July 20 to the Louisville Trust Co They had been in business two years and were supposed to be doing well. The liabilities amount to $9418 and the assets are estimated at $7800.

=The Bowers Rubber Co. (San Francisco) have been given a contract for two years for two years for supplying hose for the San Francisco fire-department. The fabric used in their hose is made at the cotton-mills in San Francisco.

=L. Mistovski & Co. (Manchester, England), proprietors of the Broadfield Rubber Works, have taken up the manufacture of mechanical goods in addition to their line of waterproof piece goods and garments. They will make specialties of printers' blankets, electric tapings, wringer-rollers,and the like. add Scrap.

=Chicle, under the new United States tariff, will be dutiable at ten cents per pound. At this rate the importations for the fiscal year 1895-96 would have yielded a revenue of $361,848.30. The average value per pound during that year was 20 cents.

=As usual at the Royal Agricultural Show, in London, there were some important exhibits of India-rubber goods at the fifty-eighth annual exhibition held lately. Charles Macintosh & Co., Limited, and the North British Rubber Co., Limited, were especially well represented with mackintoshes, and the latter with all sorts of rubber boots, but both companies also made a general display of rubber articles, including mechanical goods, because these shows are attended by machinery-makers no less than by the agriculturists. F. Reddaway & Co. made an extensive display of rubber hose and belting.

=The Danversport Rubber Co., whose mills are at Danversport, Mass., have removed their office from No. 186 Devonshire street, Boston, to A. street, South Boston.

=S. Y. L'Hommedieu, Nos. 273–277 Broadway, is the New York representative of the tire department of the National India Rubber Co., who are licensees of the Consolidated Rubber Works.

STRIKE IN A MACKINTOSH FACTORY.

THE strikers at the Apsley Rubber Works (Hudson, Mass.) hold out for arbitration of the wage-scale, for recognito of their rubber-workers' union, for the discharge of the non-union hands now at work, and for their own reëmployment in a body. Meanwhile President Apsley has refused to make concessions, and the new hands now at work in his factory number about two-thirds as many as before the trouble began. This dates from May 19, when a new list of wages was posted in the stitching-room, claimed by the young women to involve a reduction of 20 per cent. Superintendent Frank E. Holman, on the other hand, stated that wages had only been equalized—that more had been paid than in any other factory for work on a certain style of garment, which was in great demand among piece-workers, whereas under the new scale the same wages could be made on all the styles produced.

There were negotiations without any result, and on June 3 the shops were closed, with a notice posted that work would be resumed at a later date, when skilled operatives who applied individually would be employed. The company took stock, and on June 14 reopened the factory, with most of the hands in their places, although the conditions were such as to make it practically a "free shop." The wage-scale was the new one posted in May. On June 18 a strike occurred. The hands belonged to Rubber Workers' Union No. 6609, affiliated with the American Federation of Labor, and they wished that negotiations with the factory management should be made through their agent, John H. Murray, of Marlboro, Mass. President Apsley's refusal to consent to this or to submit the wage question to the State board of arbitration was the reason given for the strike. Meanwhile Mr. Apsley had caused it to be stated that, on account of paying higher wages than his competitors, many goods had been sold at a loss, and that this could not be continued. He proposed that a committee of strikers visit the other factories, and promised to pay more than his new scale if any of them were doing so.

It being reported that the factory might leave Hudson, a meeting of local business men was called and a committee appointed to confer with the rubber company and the strikers. Their report, read at a later meeting, was to the effect that no ground existed for complaint against the rubber company. At the same time public meetings were called in support of the strikers' cause. Mr. Apsley had affidavits published in relation to the old and new wage-scales, and the strikers responded with a counter statement, claiming a much wider difference. Meanwhile the company were advertising out of town for operatives, and they succeeded in equipping the mill, despite the efforts of the strikers to discourage newcomers. Labor organizations in adjacent towns have given encouragement to the strikers, and they have been indorsed by the Massachusetts branch of the Federation of Labor. A boycott on the Apsley goods has been talked about, but Mr. Apsley says that nothing of the kind exists. The strikers have been orderly as a rule, although at one time the selectmen were asked for a special police detail at the mill. There have been kind expressions by President Apsley and his late employés, each for the other, the latter being disposed to blame the company's superintendent for what has happened.

On July 27 the employés of the Apsley Rubber Co. then at work were given an outing, and a day or two later they assembled and presented President Apsley with a written testimonial expressive of their good feeling toward him and their satisfaction with the conditions of their employment. In a brief response, according to a newspaper report, Mr. Apsley "stated that the recent trouble would not have occurred if he could have dealt with his help directly, but now that it was over he bore no ill will to his former employees, and was willing to receive such as it would be for the interest of the business to give employment to."

SUIT has been brought in the United States Circuit Court by the Home Rubber Co. (Trenton, N. J.) against the Pennsylvania Railroad Co., for $10,000 damages. In 1893 the rubber company shipped a bill of goods to parties in Chicago whose credit was soon found to have been falsely rated. The delivery of the goods was, therefore, ordered postponed until they should be paid for, being meantime in custody of Solomon Reinnman, a salesman for the rubber company. It is alleged that Reinnman finally directed the Pennsylvania company to reship the goods to Trenton, and that, a few days later, demand was made upon the Home Rubber Co. for the freight charges, which were refused because the goods had not arrived. It is alleged that the goods have not yet been accounted for; hence this suit.

QUESTIONS ANSWERED BY THE EDITOR.

"TUNO" GUM.

Can you give us the botanic name of the tree from which the "Tuno" gum is gathered? E. R. W.

New York, June 25, 1897.

WE cannot. It is the belief of well informed members of the trade that this gum is the product of a different tree from that yielding the Nicaragua rubber of commerce, which is the *Castilloa elastica*, but the botany of rubber as yet is known very imperfectly. The appearance of rubber brought to market is no guide to the difference in rubber-trees. Thus there is no resemblance between the black, ill-smelling "Cartagena" rubber as it first came to market and the clean "virgin slab" that now comes from Colombia, though it is the same rubber, differently treated in the forest. The difference between "fine" and "coarse" Pará is so great that a stranger to the trade might suppose them to be the product of different trees, but they are not. When what is now known as "Tuno" first reached the New York market it was regarded as possibly the product of the regular Nicaragua rubber-tree. After twenty years, however, the constant quality of this gum has led to the belief that it must come from a distinct species. No doubt one reason why more is not known of the tree is to be found in the limited demand for "Tuno" and the consequent low price. Whenever a demand for it appears, the importation increases. Some time ago, when a manufacturer advertised in THE INDIA RUBBER WORLD for "Tuno," offering 25 cents a pound, there were speedy offerings. Now, however, with only about 70,000 pounds in the New York market, the asking price is only about 9 to 15 cents, according to quality. To return to botany, the best authorities on Nicaragua rubber-trees state that there are several species in addition to the *Castilloa elastica*, yielding grades inferior to the Nicaragua rubber, and we hope before long to hear of these being identified. The name "Tuno" was first applied to a sample of gum through a misunderstanding of a rubber broker's chance remark, which was used first jocularly and became employed regularly to designate an article of commerce.

HOW VULCANIZATION IS ACCOMPLISHED.

I would like a short, practical article covering in a simple fashion the theory of the vulcanization of rubber, explaining, in an easily understood manner, how it is accomplished and what the chemical effect of vulcanization is. Where can I find it? S. E.

Boston, July 16, 1897.

WHILE a great deal has been written on this subject, it is not easy to point to a single article that covers the field. The best that we can think of is contained in THE INDIA RUBBER WORLD of June 10, 1895 (pp. 250–251). This article is fittingly supplemented by one on the "Deterioration of India-rubber and its Causes," in our issue of November 10, 1895 (pp. 39–40), showing the relation between the vulcanization of rubber and its subsequent characteristics.

TREATMENT OF AFRICAN RUBBERS.

Can you put me in the way of gaining any information regarding the methods employed for gathering and treating Central African rubbers? G. N.

Middletown, Conn., July 12, 1897.

THE principal Central African rubbers are the Congo sorts, which are gathered, for the most part, by natives in the employ of half a dozen Belgian companies to whom the government has granted concessions. Elsewhere in Africa rubber is gathered by natives on their own account, and carried to trading stations and bartered for European goods. There is no settled practice in coagulating these rubbers, nor is there in any other country than Brazil. Some of the rubber is dried in the sun, some is solidified by boiling, while various astringents—generally the juices of neighboring plants—are also used. An importer of African rubbers informs THE INDIA RUBBER WORLD that no regard is given in the trade to the methods used in their preparation. The quality is judged by the appearance of the rubber, and generally it is impossible to say how any particular specimen has been coagulated. Most of these rubbers, when received from the natives, contain a great deal of dirt, and machines have been devised for cutting the rubber into narrow strips and cleaning it more or less before it is offered in the market.

WANTS TO START A RUBBER PLANTATION.

About three years ago I had the pleasure of meeting you while *en route* to this country to buy land and establish a coffee plantation. I had some conversation with you regarding rubber-culture, and thought at the time to try a small acreage, but, until the present time, have been so busy with the coffee that I have been unable to give attention to other matters. As my coffee is now beginning to yield I feel a liberty to look into other matters and have thought of trying several other crops, particularly rubber, cacao, and tobacco. Rubber grows wild here and there should be an abundance for seed. I understand that it can be propagated by slips or cuttings, but I do not know at what time of the year the cuttings should be set out. I write to ask you if there is anything published on the subject of rubber-culture.

CARLOS R. L. FINDLAY.

San Juan Evengelista, Vera Cruz, Mexico, June 29, 1897.

THERE is no such book published as our correspondent asks for. We should advise the purchase of seedlings from a nursery, if one can be found within convenient distance. It might be well to correspond, first of all, with planters of the kind of rubber that grows native in Mexico. One is F. O. Harriman, Jaltipec, Tehuantepec. Others are J. N. Garrison, H. Willdesen, International Planting Co., and Brown & Harris, all of Bluefields, Nicaragua. The Rama Tropical Fruit Co., at Rama, Nicaragua, have also planted some rubber.

A PATENT FOR RUBBER SOLES.

Have you any record of a patent being granted to the Mundell Rubber Co., or to one Brown, for rubber soles? If so, please give me the number of the same? P. T.

Trenton, N. J., July 20, 1897.

A PATENT on a rubber sole for boots or shoes was granted recently to John W. Brown, of Trenton, N. J., assignor to himself and William G. Grieb and Harry Grieb, of Philadelphia. The Messrs. Grieb control the Mundell Rubber Co. (Trenton). The number is 583,641. Fuller details will be found in our monthly abstract of rubber patents.

IT will be remembered that *Old Jed Prouty*, in the play of that name, and a fellow-townsman, have quite a heated discussion as to whether their town should buy fourteen or seventeen feet of new hose to strengthen the fire-department. A Kansas town figures more closely than that. It recently communicated officially with a Boston manufacturer to get his prices on six feet of 3½ inch hose without couplings.—*Boston Transcript.*

RUBBER TIRES IN THE CARRIAGE TRADE.

AN inquiry in relation to the use of rubber carriage-tires, instituted lately by the *Carriage Monthly* (Philadelphia), has brought out evidence convincing to the editor that such use has "become popular and is making quite commendable progress." Still, it is not as rapid as it "ought to be." The editor wrote to eleven leading manufacturers, six of whom use rubber tires. During the past twelve months 1050 sets of solid rubber tires were put on carriages, 268 sets of pneumatic tires and 25 sets of cushion tires, or a total of 1343 sets, by these six firms within the time stated. This is a little over 100 a month. It is stated that C. P. Kimball & Co. (Chicago) regularly put them on about four-fifths of all the vehicles sold, about the only exceptions being the light work. This firm rarely sell a brougham or victoria without rubber tires. A Massachusetts firm who put on only one set of pneumatic carriage-tires in 1895, put on forty or fifty last year. There are no more enthusiastic canvassers for orders nowadays than the manufacturers of rubber tires of different kinds for carriages and other vehicles. In New York pneumatic or solid tires have been applied to nearly every sort of thing that goes on wheels, and if rubber fails to come into wide use for this purpose it will not be for the want of a fair test. When Mr. Cornelius Vanderbilt, after his recent attack of illness, went from New York to Newport, he was conveyed from his residence to the steamer in an improved form of invalid coach, so constructed as to receive and hold a couch, and mounted with India-rubber tires. Another such coach met Mr. Vanderbilt at the other end of his journey. The Fifth Avenue Stage Co., of New York, is about to replace its coaches with new ones of better construction, and the first to go in o use is supplied with pneumatic tires. An officer of the company informs THE INDIA RUBBER WORLD that it is only an experiment, and it is known that the tires were put on at the suggestion of one of the most energetic concerns in the rubber trade, but in case they should prove successful it is probable that the other new coaches will be similarly equipped.

REVIEW OF THE INDIA-RUBBER MARKET.

A CONDITION of firmness has prevailed during the past month in the crude-rubber trade, which is encouraging from one standpoint, in that it has been due largely to an improvement in rubber-manufacturing circles. There are evidences that, while the deliveries of rubber have not been particularly large in the aggregate, they have been distributed to an unusual number of consumers, indicating a general activity among the factories. The shoe companies have been especially busy, running full-handed and on full time. The mechanical-goods industry remains in a condition of comparative dullness, and yet the numerous concerns in the trade, with their great variety of products, have managed to dispose of a volume of goods, on small orders, which has called for the consumption of a considerable weight of raw material. While the bicycle-tire season is practically over, the production has not ceased entirely, and in the other branches of the industry evidences are apparent that improvement is near at hand. A point to be noted is that almost the whole production of rubber-goods has been at the expense of the current receipts of raw rubber, since it has been the policy of manufacturers for so long a period to carry very light stocks. There are few mills to-day that keep on hand such large supplies as were once common.

The reasons given for the apparent improvement here noted are various, but it is the opinion of not a few members of the trade that the end of the tariff agitation as a disturbing element has had a favorable effect. In all lines of rubber goods retailers' stocks have been low for two years or more, and on the first intimations of better trade, they have begun to send in orders, to the great gratification of the manufacturer.

The effect of the better outlook for the consumption of rubber naturally has had the effect of strengthening prices, which have advanced steadily since the date of our last report. Another cause, to some extent, has been the close of the Pará crop-year, and the annual uncertainty, at this season, of the extent of the output of the coming year. All grades of rubber have participated in the advance, including Africans. Although the receipts of the latter sorts have been heavy, there have been no accumulations of stocks, which is a further evidence of the busy condition of the mills.

The latest quotations in the New York market are:

PARÁ.			
Islands, fine, new	84	@	85
Islands, fine, old	85	@	86
Islands, coarse, new	46	@	49
Islands, coarse, old	none here		
Upriver, fine, new	85	@	87
Upriver, fine, old	88	@	89
Upriver, coarse, new	57	@	
Upriver, coarse, old	58	@	
Caucho (Peruvian) sheet	42	@	
Caucho (Peruvian) strip	none here		
Caucho (Peruvian) ball	52	@	
CENTRALS.			
Esmeralda, sausage	53	@	
Guayaquil, strip	46	@	48
Nicaragua, scrap	52	@	
Mangabeira, sheet	42½	@	
AFRICAN.			
Tongues	43	@	44
Sierra Leone	25	@	55
Benguela	49	@	
Congo Ball	42	@	44
Cameroon Ball	44	@	45
Flake and Lumps	25½	@	26½
Accra Flake		@	20
Accra Buttons	54	@	
Accra Strips		@	60
Lagos Buttons	50	@	
Lagos Strips	50	@	
Liberian Flake		@	30
Madagascar, pinky	62	@	
Madagascar, black	none here		
EAST INDIAN.			
Assam	40	@	63
Borneo	27	@	42
GUTTA-PERCHA.			
Fine grade			1.35
Medium			1.20
Hard white			90
Lower sorts			50
Balata			

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine	9 $250	Upriver, fine	10 $200
Islands, coarse	4 $950	Upriver, coarse	6 $600

Exchange 7 3/32@

The statistical position of Pará rubber in New York and elsewhere is as follows, the figures expressing tons of 1000 kilograms:

	Fine and Medium.	Coarse.	Totals.	Totals. 1896.	Totals. 1897.
Stock, June 30	266	33 =	299	289	366
Arrivals, July	322	167 =	489	253	193
Aggregating	588	200 =	788	542	55
Deliveries, July	324	152 =	476	295	249
Stock, July 31	264	48 =	312	247	311

	1897.	1896.	1895.
Stock in England, July 31	1075	1045	1065
Deliveries in England, July	600	480	390
Pará receipts, July	970	910	960
Stocks in Pará, July 31	210	240	285
World's supply, July 31 (excluding Caucho)	1952	1967	2374
Pará receipts since July 1	970	910	960

NEW YORK PRICES FOR PARÁ RUBBER IN JULY.

	1897.	1896.	1895.
Upriver fine	84 @86	86 @88	72 @74
Upriver coarse	55 @56	56 @58	55 @56
Island fine	82 @84	81 @85	70 @72
Island coarse	46½@48	43 @47	46 @47½
Cameta coarse	56 @58	50 @52	50 @51

Relative to Balata, a recent report from Rotterdam says: "According to reports from the other side, imports will for awhile, if not for the whole season, remain very light. The much-desired rains are still absent, which will delay the gathering of the sap and the export of the raw product."

In respect to the financial situation, Albert B. Beers, broker in India-rubber and commercial paper (No. 58 William street, New York), advises us as follows:

"In the commercial-paper line about the same conditions have prevailed through July as in June, with a fair demand at 4@5 per cent. for the best names and 5@6 per cent. for the less-known ones, but the demand for money, especially from the west and south, is increasing, and indications point to a stronger market, with some advance in rates."

IMPORTS FROM PARA.

THE receipts of India-rubber direct from Pará and Manáos at the port of New York since our last publication are reported in detail below, the figures referring to pounds:

July 6.—By the steamer *Sobralense*, from Manáos and Pará:

	Fine.	Medium.	Coarse.	Caucho.	Total.
Flint & Co	38,700	6,600	15,600	57,900=	118,800
Lawrence Johnson & Co.	36,500	12,700	12,700	.....=	61,900
New York Commercial Co.	29,600	5,700	19,800	300=	55,400
Boston Rubber Shoe Co.	.....	.....	.....	30,700=	30,700
Sears & Co.	10,100	1,400	10,800	4,700=	28,000
Shipton Green	10,300	3,500	6,000	3,600=	23,400
Reimers & Meyer	7,500	1,100	13,200	.....=	21,800
Joseph Banigan	.....	.....	17,300	.....=	17,300
George G. Cowl	2,800	1,400	1,800	.....=	6,000
Otto G. Mayer & Co.	.....	.....	6,000	.....=	6,000
Peerless Rubber Mfg. Co.	2,900	300	500	.....=	3,700
Total	139,400	32,700	103,700	97,200=	373,000

July 15.—By the steamer *Dunstan*, from Manáos and Pará:

G. Amsinck & Co	45,900	29,100	31,500	.....=	106,500
Boston Rubber Shoe Co.	32,800	6,500	14,400	60,500=	114,200
New York Commercial Co	44,600	7,500	31,000	3,600=	86,700
Reimers & Meyer	36,700	16,400	25,300	.....=	78,400
Sears & Co.	24,000	2,800	14,400	300=	41,500
Flint & Co.	16,800	5,300	17,400	.....=	39,500
Joseph Banigan	.....	.....	12,200	.....=	12,200
Lawrence Johnson & Co.	.....	.....	4,500	800=	5,300
Total	200,800	67,600	150,700	65,200=	484,300

July 27.—By the steamer *Hubert*, from Manáos and Pará:

Boston Rubber Shoe Co.	48,200	9,300	26,800	25,000=	109,300
Sears & Co.	26,800	3,600	16,800	40,600=	87,800
New York Commercial Co	20,700	5,700	28,500	2,800=	57,700
Flint & Co.	26,100	6,000	18,600	.....=	50,700
Reimers & Meyer	6,800	1,400	8,900	.....=	17,100
Lawrence Johnson & Co.	6,100	2,700	6,600	....=	15,400
Otto G. Mayer & Co.	.....	.....	11,400	.....=	11,400
P. Lima	2,300	.....	1,500	.....=	3,800
Shipton Green	1,100	400	700	1,800=	4,000
Total	138,100	29,100	119,800	70,200=	357,200

August 5.—By the steamer *Lisbonense*, from Pará:

New York Commercial Co	71,400	7,900	26,400	800=	106,500
Boston Rubber Shoe Co.	26,000	6,800	23,400	35,000=	93,200
Reimers & Meyer	10,600	1,700	7,700	45,200=	65,200
Flint & Co.	21,400	4,100	15,300	.....=	40,800
Sears & Co.	16,100	1,800	11,400	.....=	29,300
P. Lima	3,600	.....	2,500	.....=	6,100
Total	149,100	22,300	86,700	81,000=	341,100

	1897.	1896.	1895.
January Imports from Pará	1,393,500	2,718,300	2,869,500
February Imports	3,684,300	1,945,900	2,274,400
March Imports	2,436,600	2,786,300	3,611,700
April Imports	1,557,600	1,941,500	2,156,400
May Imports	1,683,900	1,527,800	1,651,400
June Imports	1,032,700	583,900	1,030,100
July Imports	1,214,500	727,000	666,200
Total	13,003,100	12,230,700	14,259,700

PARA IMPORTS VIA EUROPE.

July 10.—By the steamer *Campania*, from Liverpool:

Flint & Co.	.....	3,300	.....	700=	4,000

July 19.—By the steamer *Aurania*, from Liverpool:

Albert T. Morse	11,200	.....	.....	.....=	11,200

July 30.—By the steamer *Lucania*, from Liverpool:

G. Amsinck & Co.	.....	.....	3,500	.....=	3,500

OTHER NEW YORK ARRIVALS.

BELOW will be found in detail the imports at New York during July, 1897, of India-rubber from Mexico, Central America, and South America, other than Pará grades; also arrivals at New York of African and East Indian sorts:

CENTRALS.

POUNDS.

JULY 2.—By the *Alliance*=Colon:

Roldan & Van Sickle	5,816
G. Amsinck & Co.	4,011
Munoz & Espriella	3,640
A. Santos & Co.	3,415
W. R. Grace & Co	2,624
Dumarest & Co.	2,080
J. M. Ceballos & Co.	1,043
Maitland, Coppel & Co	699
J. Menendez & Co.	252
Isaac Brandon & Bros	84
Total	27,064

JULY 6.—By the *Sardinian Prince*=Bahia:

New York Commercial Co	11,500

JULY 7.—By the *Douglas*=Greytown:

Eggers & Heinlein	1,100
Samper & Jimenez	600
H. Feltman & Co.	500
Hoadley & Co.	300
Total	2,500

JULY 8.—By the *Irrawaddy*=Bolivar:

Cadenas & Coe	4,000

JULY 7.—By the *El Monte*=New Orleans:

Albert T. Morse	8,500

JULY 9.—By the *Coleridge*=Pernambuco:

Allerton D. Hitch	1,500

JULY 13.—By the *Hudson*=New Orleans:

Albert T. Morse	3,500

JULY 12.—By the *Advance*=Colon:

Munoz & Espriella	3,200
Flint, Eddy & Co	1,984
A. Santos & Co.	1,943
W. R. Grace & Co.	1,430
J. B. Sageman	1,400
Dumarest & Co.	1,300
J. M. Ceballos & Co.	1,077
A. P. Strout	1,024
Roldan & Van Sickle	825
Elmenhorst & Co.	327
D. Minto & Co.	280
J. Hecht & Son	160
J. Aparicio & Co.	150
Total	15,051

JULY 13.—By the *Alene*=Port Limon:

Eggers & Heinlein	1,500
D. A. de Lima & Co	1,400
J. Ferro	1,200
A. N. Rotholz	500
Munoz & Espriella	300
J. H. Rossbach & Bros	100
W. R. Grace & Co.	100
For Bremen	600
Total	5,800

JULY 14.—By the *Seguranca*=Mexico:

H. Marquardt & Co.	2,000
Graham, Hinckley & Co.	700
E. Steiger & Co.	700
Thebaud Bros	200
Total	3,600

JULY 16.—By the *Excelsior*=New Orleans:

Albert T. Morse	2,000

JULY 19.—By the *Altai*=Greytown:

A. P. Strout	8,500
G. Amsinck & Co	8,000
Andreas & Co.	7,500
Hoadley & Co.	1,000
Guiterman, Rosenfeld & Co	1,000
Elmenhorst & Co.	700
Dumarest & Co.	500
Total	27,200

JULY 21.—By the *Finance*=Colon:

Isaac Brandon & Bros.	5,911
Piza, Nephews & Co.	4,137
G. Amsinck & Co.	4,400
H. Feltman & Co.	1,050
H. Marquardt & Co.	500
Thebaud Bros	500
Eggers & Heinlein	300
Munoz & Espriella	227
Total	17,125

JULY 28.—By the *Saratoga*=Mexico:

Flint, Eddy & Co.	1,500
Samuel Bros	200
E. N. Tibbals	300
Total	2,000

JULY 29.—By the *El Sol*=New Orleans:

Albert T. Morse	2,000

JULY 30.—By the *Flaxman*=Bahia:

Reimers & Meyer	10,000
	7,500
Total	17,500

JULY 31.—By the *Alliança*=Colon:

New York Commercial Co	5,500
A. Santos & Co	5 200
G. Amsinck & Co	4,972
Roldan & Van Sickle	4,200
Flint, Eddy & Co	1,605
W. R. Grace & Co	1,496
J. Aparicio & Co	1,200
Dumarest & Co	1,139
F. Probst & Co	649
D. A. De Lima & Co	615
Asculiu & Casses	426
H. Feltman & Co	340
A. M. Capen's Sons	306
Isaac Brandon & Bros	261
Total	27,981

JULY 31.—By the *Wordsworth*=Bahia:

New York Commercial Co	2,800

Total Centrals for July	178,021
Total for June	178,813
Total for May	169,435
Total for April	242,605
Total for March	215,671
Total for February	163,558
Total for January	255,082

AFRICANS.

JULY 16.—By the *Prussia*=Hamburg:

	POUNDS.
Windmuller & Roelker	10,300
Reimers & Meyer	3,300
Total	13,600

JULY 6.—By the *Georgic*=Liverpool:

George A. Alden & Co	153,000
Sears & Co	51,000
Total	204,000

JULY 6.—By the *Southwark*=Antwerp:

Reimers & Meyer	28,200

JULY 7.—By the *Teutonic*=Liverpool:

Sgal & Co	9,300
George A. Alden & Co	5,000
Total	14,300

JULY 9.—By the *Pennsylvania*=Hamburg:

George A. Alden & Co	7,100

JULY 9.—By the *Dona Maria*=Lisbon:

William A. Brown & Co	5,100

JULY 12.—By the *Sicilia*=Havre.

Otto G. Mayer & Co	1,200

JULY 12.—By the *Vega*=Lisbon.

Sears & Co	205,000
George A. Alden & Co	87,000
Reimers & Meyer	24,000
Total	316,000

JULY 10.—By the *Campania*=Liverpool:

Sgal & Co	20,100
Reimers & Meyer	19,000
Otto G. Mayer & Co	18,200
George A. Alden & Co	10,000
Wm. A. Brown & Co	3,500
Total	71,200

JULY 13.—By the *Berlin*=Antwerp:

Reimers & Meyer	25,200

JULY 15.—By the *Westmeath*=Hamburg:

Albert T. Morse	6,000

JULY 16.—By the *Patria*=Hamburg:

Reimers & Meyer	20,500
George A. Alden & Co	18,800
Total	39,300

JULY 17.—By the *Adriatic*=Liverpool:

George A. Alden & Co	34,000

JULY 19.—By the *Aurania*=Liverpool:

Reimers & Meyer	44,200
Sgal & Co	10,100
George A. Alden & Co	2,500
Total	56,800

JULY 19.—By the *Tauric*=Liverpool:

George A. Alden & Co	53,000

JULY 22.—By the *Phœnicia*=Hamburg:

Reimers & Meyer	2,200

JULY 24.—By the *Paris*=Southampton:

Reimers & Meyer	2,500

JULY 24.—By the *Umbria*=Liverpool:

George A. Alden & Co	12,100
Reimers & Meyer	11,000
Sgal & Co	4,500
Otto G. Mayer & Co	5,000
Albert T. Morse	2,500
Total	35,100

JULY 27.—By the *Friesland*=Antwerp:

George A. Alden & Co	13,500

JULY 30.—By the *Lucania*=Liverpool:

George A. Alden & Co	14,800
Sgal & Co	4,000
Reimers & Meyer	6,000
Total	24,800

JULY 30.—By the *St. Paul*=Southampton:

Reimers & Meyer	3,500
Albert T. Morse	1,000
Total	4,500

Total Africans for July	957,600
Total for June	460,300
Total for May	953,321
Total for April	892,700
Total for March	816,311
Total for February	737,700
Total for January	699,000

EAST INDIAN.

JULY 2.—By the *Benmohr*=Singapore:

	POUNDS.
Reimers & Meyer—(Pontianak)	80,600

JULY 3.—By the *Prussia*=Hamburg:

George A. Alden & Co	7,800

JULY 9.—By the *Mississippi*=London:

Wm. A Brown & Co	5,000

JULY 19.—By the *Mobile*=London:

Reimers & Meyer	36,700
Wm. A. Brown & Co	2,600
Total	39,300

JULY 24.—By the *Paris*=Southampton:

Albert T. Morse	5,000

JULY 27.—By the *Massachusetts*=London:

Wm. A. Brown & Co	10,000

JULY 31.—By the *Europe*=London:

Reimers & Meyer	10,000
Wm. A. Brown & Co.—(Pontianak)	22,000
Total	32,000

JULY 22.—By the *Konigin Luise*=Bremen:

Robert Soltau & Co	31,100

Total East Indian for July	212,800
Total for June	150,900
Total for May	188,400
Total for April	86,500
Total for March	58,100
Total for February	80,600
Total for January	178,000

GUTTA-PERCHA.

JULY 16.—By the *Patria*=Hamburg:

	POUNDS.
Robert Soltau & Co	6,700

JULY 22.—By the *Konigin Luise*=Bremen:

Robert Soltau & Co	3,500

JULY 28.—By the *Persia*=Hamburg:

Robert Soltau & Co	9,500

BALATA.

JULY 30.—By the *Prins Willem II*=Paramaribo:

American Exploitation Co	2,500
George A. Alden & Co	100
Total	2,600

RECAPITULATION.

	POUNDS.
Pará—direct imports	1,214 500
Pará—via Europe	18, 00
Centrals	178,021
Africans	957,600
East Indian	219,800
Gutta-percha and Balata	22,300
Total at New York for July	2,610,921
Total for June	1,833,913
Total for May	3,141,556
Total for April	3,180,405
Total for March	3,563,557
Total for February	4,719,158
Total for January	2,668,182

BOSTON ARRIVALS.

JULY 6.—By the *British Crown*=London:

	POUNDS.
George A. Alden & Co. (East Indian)	2,017

JULY 13.—By the *Sachem*=Liverpool:

George A. Alden & Co. (East Indian)	11,616
Boston Rubber Shoe Co. (Pará—medium)	55,547
Sgal & Co. (African)	916
Total	68,079

JULY 17.—By the *Oriel*=London;

George A. Alden & Co. (East Indian)	36,824

JULY 21.—By the *Kansas*=Liverpool:

Geo. A. Alden & Co. (Pará—fine and medium)	998

JULY 24.—By the *Roman*=Liverpool:

Reimers & Meyer (Pará—fine)	11,074
George A. Alden & Co. (African)	13,119
Total	24,193

JULY 27.—By the *Michigan*=Liverpool:

Reimers & Meyer—(Pará—fine)	47,502

JULY 12.—By the *Pavonia*=Liverpool:

Reimers & Meyer (African)	6,808

JULY 19.—By the *Scythia*=Liverpool:

Reimers & Meyer (African)	13,443

JULY 29.—By the *Canada*=Liverpool:

George A. Alden & Co. (African)	9,150

Africans	43,436
East Indian	50,457
Pará	115,121

Total at Boston for July	209,014
Total for June	115,700
Total for May	223,828
Total for April	130,855
Total for March	141,162
Total for February	209,513
Total for January	227,245

NEW ORLEANS.

JULY.

	POUNDS.	VALUE.
From Nicaragua	17,932	$6,502

CUSTOM-HOUSE FIGURES.

PORT OF NEW YORK—JUNE.

	POUNDS.	VALUE.
Imports:		
India-rubber	1,488,775	$682,109
Gutta-percha	24,570	3,419
Total	1,513,445	$685,528
Exports:		
India-rubber	18,381	$8,536
Reclaimed rubber	70,534	6,483